star

USER'S MANUAL

LC-1011C
LC-100+ COLOUR
DOT MATRIX PRINTER

Federal Communications Commission
Radio Frequency Interference Statement

The 120V version equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television, which can be determined by turning off and on, the user is encouraged to try to correct the interference by one or more of the following measures.

• Reorient or relocate the receiving antenna.

• Increase the separation between the equipment and receiver.

• Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

• Consult the dealer or an experienced radio/TV technician for help.

Unauthorized modifications of this product by the user will void his authority to operate the equipment unless expressly approved by the party responsible for compliance.

For compliance with the Federal Noise Interference Standard, this equipment requires a shielded cable.

The 220V version equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

For compliance with the Federal Noise Interference Standard, this equipment requires a shielded cable.

The above statement applies only to printers marketed in the U.S.A.

Statement of The Canadian Department of Communications Radio Interference Regulations

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectiques dépassant les limites applicables aux appareils numériques de la classe B prescrites dans le Règlement sur le brouillage radioélectrique édicté par le Ministère des Communications du Canada.

The above statement applies only to printers marketed in Canada.

CE
Manufacturer's Declaration of Conformity

EC Council Directive 89/336/EEC of 3 May 1989

This product, has been designed and manufactured in accordance with the International Standards EN 50081-1/01.92 and EN 50082-1/01.92, following the provisions of the Electro Magnetic Compatibility Directive of the European Communities as of May 1989.

EC Council Directive 73/23/EEC and 93/68/EEC of 22 July 1993

This product, has been designed and manufactured in accordance with the International Standards EN 60950, following the provisions of the Low Voltage Directive of the European Communities as of July 1993.

The above statement applies only to printers marketed in EU.

Ambient Noise Statement

Machine Noise Information Ordinance 3. GSGV, January 18, 1991: The sound pressure level at the operator position is equal or less than 70 dB(A) according to ISO 7779.

The above statement applies only to printers marketed in EU.

Trademark acknowledgments

LC-10, LC-100, LC-100+, LC-200, LC-1011C, NX-1000, NX-1020, NX-1040, PT-10DT, SPC-8K:
Star Micronics Co. Ltd.

EX-800, FX-850, LX-810, LX-850: Seiko Epson Corporation

IBM PC, IBM Proprinter, IBM Proprinter Ⅱ, IBM Proprinter Ⅲ:
International Business Machines Corporation.

TrueType: Apple Computer Inc.

MS-DOS, Microsoft windows: Microsoft Corporation

Notice

About this manual

This manual describes how to set up, use, and care for the Star LC-1011C and LC-100+ Colour printers. The following is a list of what you can expect to find in each chapter.

Chapter 1   Choosing a place for your printer, unpacking and setup, ribbon cassette installation, loading paper, connecting to your computer

Chapter 2   How to use the control panel

Chapter 3   How to use the printer's Electronic DIP Switch (EDS) Mode to set up the printer to match the needs of your system and software

Chapter 4   How to set up for printing with MS-DOS

Chapter 5   Selecting the best type of paper, adjusting for paper thickness, manual sheet feeding, clearing paper jams

Chapter 6   How to install and use the optional accessories that are available for your printer

Appendix A   How to deal with printing problems

Appendix B   Specifications

Appendix C   Interface information

Appendix D   Character sets

Appendix E   Printer control codes

Appendix F   Glossary

Appendix G   Control panel operation guide

Contents

Chapter 1: Printer Setup

This chapter contains important information on setting up your printer. Be sure to read this chapter carefully before using the printer for the first time. In this chapter you will learn about:

❏ Choosing a place for the printer

❏ Unpacking and setting up the printer

❏ Installing the platen knob

❏ Installing the ribbon cassette

❏ Loading paper

❏ Connecting to your computer

Choosing a place for the printer

Before actually unpacking the printer, you should take a few minutes to think about where you plan to it. Remember the following points when doing this.

✓ Choose a firm, level surface where the printer will not be exposed to vibration.

✓ The power outlet you plan to connect to for power should be nearby and unobstructed.

✓ Make sure that the printer is close enough to your computer for you to connect the two with your printer cable.

✓ Allow six inches (15 centimeters) of free space on either side of the printer. If you are going to use fanfold paper, make sure that there is adequate space for paper behind the printer.

✓ Make sure that the printer is not exposed to direct sunlight.

✓ Make sure that the printer is well away from heaters.

✓ Make sure that the surrounding area is clean, dry, and free of dust.

✓ Make sure that the printer is connected to a reliable power outlet. It should not be on the same electric circuit as copiers, refrigerators, or other appliances that cause power spikes.

✓ Use a power outlet that matches the power rating noted on the label affixed to the bottom of your printer.

✓ Make sure that the room where you are using the printer is not too humid.

Unpacking the printer

Check to make sure that the carton contains each of the items shown in the following illustration.

User's manual

Platen knob

Paper guide

Ribbon cassette

3.5" Floppy disk
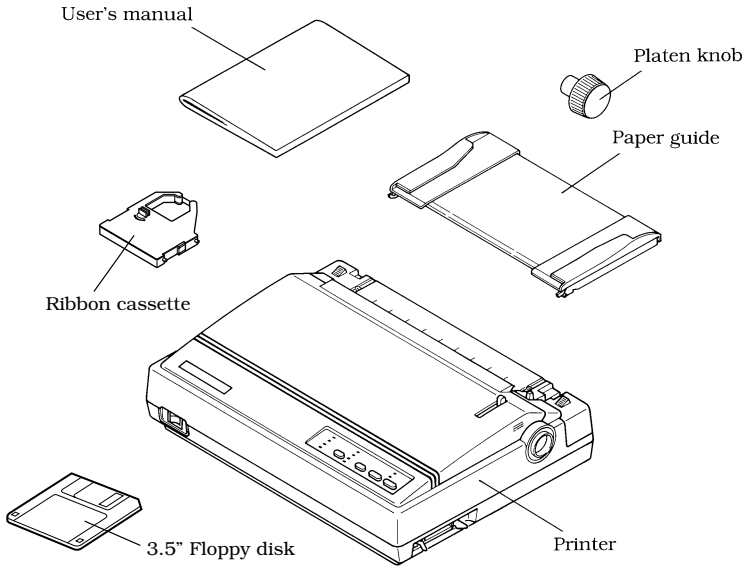
Printer

If anything is missing, contact the store where you bought the printer and ask them to supply the missing part. Note that it is a good idea to keep the original box and all the packing materials just in case you need to pack the printer up again and send it somewhere at a later date.

A serial-to-parallel interface converter (SPC-8K), an Automatic Sheet Feeder (SF-10DT) and ribbon cassettes (LC9W/LC9CL) are also available as options. Consult your dealer for details.

Important!

There are several versions of this printer designed for different voltages. It is not possible to change the voltage of a printer. If the voltage shown on the label on the bottom of your printer does not match the voltage for your area, contact your dealer immediately.

General guide

The following illustrations show the major components of your printer.

Front cover

Entry slot

Paper guide

Release lever

Power switch

Platen knob

Control panel

Interface connector

Adjustment lever

Rear cover

Tractors

Bail lever

Ribbon cassette
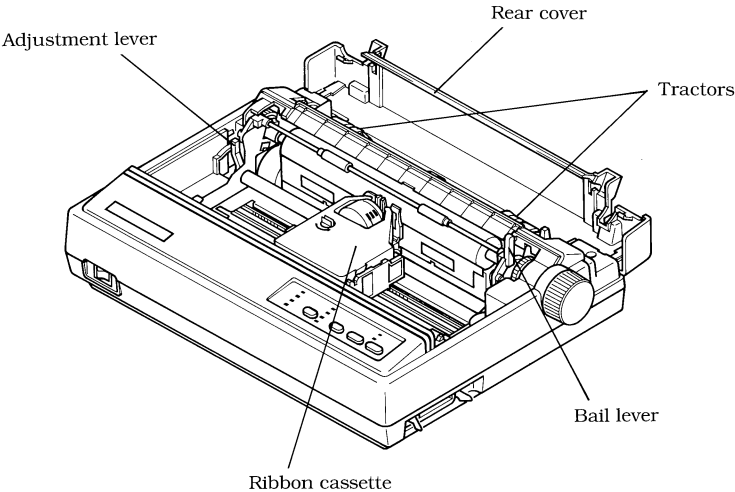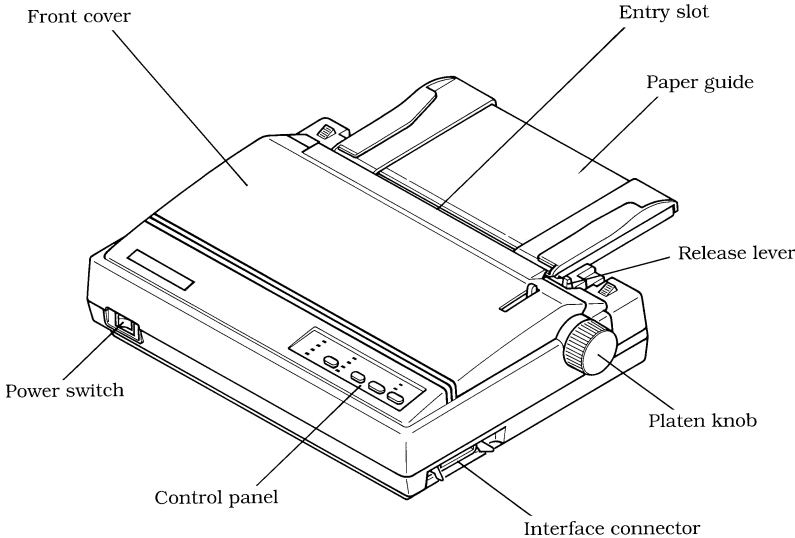
Installing the platen knob

The platen knob is packed into a recess in the packaging material.

❏ Install the knob on the shaft located inside the large hole on the right side of the printer. Make sure that the two splines of the platen shaft inside the printer fit into the slots inside the knob's spindle. Press the knob carefully but firmly into place as far as it will go.

Platen knob
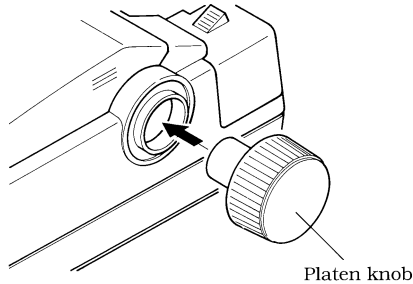
Opening the front cover

❏ Lift up on the front cover while pressing in gently on its sides.

Front cover
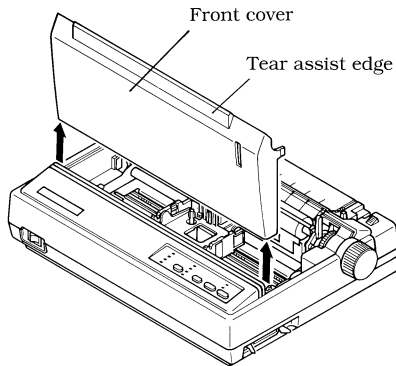
Tear assist edge

❏ To close the front cover, simply lower it back into place.

Caution!

The tear assist edge is rather sharp. Take care to avoid injuring your hands.

Note:

> *You can completely remove the front cover from the printer or you can stand it up without removing it. You should normally leave the front cover closed, because it protects against objects getting into the printer, and it cuts down on printer noise.*

Installing the ribbon cassette

❏ Make sure that the printer is unplugged from its power outlet.

Caution!

> *Never move the print head while the printer is turned on. Doing so can damage the printer. If you have just finished printing, let the print head cool for a few minutes before you touch it.*

❏ Open the front cover of the printer.

❏ Remove the ribbon cassette from its package.

❏ Rotate the knob on the ribbon cassette counterclockwise to take up any slack in the ribbon.

Tension knob
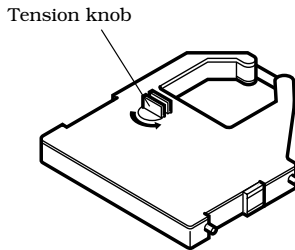
❏ Carefully place the cassette onto the cartridge holder making sure that the spindle of the holder fits into the socket on the bottom of the cassette. Also make sure that the side tabs fit into the grooves on the sides of the cartridge holder.

❏ While guiding the ribbon between the print head and print head shield, press down gently but firmly on the cassette until the side tabs snap securely into place.

Print head shield

Print head
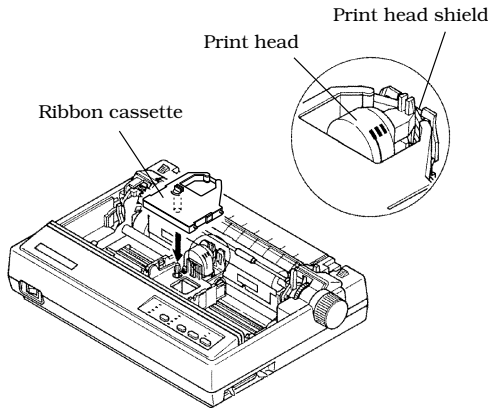
Ribbon cassette

❏ Rotate the knob on the cassette again to take up any slack.

❏ Close the front cover of the printer.

Note:

If you want to print with color, use an optional LC9CL color ribbon cassette. If you change to a color ribbon, be sure to make the required changes to the EDS settings (page 30).

Printing that is poor quality or too light is almost always due to a ribbon that is simply worn out or "used up." Check the following points whenever print quality is not what you expect.

✓ Is your monochrome ribbon still in good shape? If the ribbon material appears to be grey, it means that the black ink has been used up and it is time to replace the ribbon.

✓ Are you using a color ribbon to print mainly black text? Doing so can cause the black part of the color ribbon to be used up too quickly. Switch to a monochrome ribbon whenever you plan to print mainly black text. Remember to make any necessary EDS changes when you change ribbon types.

✓ Are you getting muddy-looking colors from a color ribbon? The more green, orange, and purple colors you use, the quicker the primary colors (blue, red, yellow) will become mixed with other colors. This will cause a drop in performance of the ribbon.

✓ Remember that changing the ribbon before it becomes frayed or completely out of ink extends the life of your print head.

Removing the ribbon cassette

Use the following procedure to remove the ribbon cassette from the printer when you want to replace it with a new one.

❏ Make sure that the printer is unplugged from its power outlet.

Caution!

Never move the print head while the printer is turned on. Doing so can damage the printer. If you have just finished printing, let the print head cool for a few minutes before you touch it.

❏ Open the front cover of the printer.

❏ Lift up the front part (the part nearest the print head) of the ribbon cassette.

❏ Once it is free, carefully remove the cassette from the holder.

❏ Use the procedure under "Installing the ribbon cassette" on page 5 to install a new cassette.

Installing the paper guide

❏ Insert the two tabs on the bottom of the paper guide into the holes provided on the rear cover of the printer.
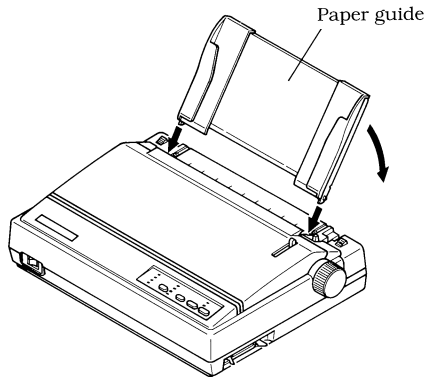
Paper guide

❏ To remove the paper guide from the printer, simply pull the tabs out of the holes.

Note:

Lay the paper guide down flat when using fanfold paper, and stand it up when using cut-sheet paper.

Connecting to a power outlet and turning power on and off

❏ Plug the power cord of the printer into a standard power outlet whose voltage matches the power rating noted on the label affixed to the bottom of your printer.

Caution!

If the voltage marked on the bottom of your printer does not match the voltage from the outlet you are using, do not plug in the power cord. Contact your dealer for assistance.

❏ Set the switch on the front of the printer to ON to turn power on, and to OFF to turn power off.

Note:

> *We recommend that you unplug the printer from the power outlet whenever you do not plan to use it for long periods. Because of the this, you should locate the printer so that the power outlet it is plugged into is nearby and easy to access.*

At this point you may want to perform a test of the printer to make sure it is working properly. See "Testing the printer" on page 47 for details on how to perform tests.

Loading fanfold paper

This section tells you how to load fanfold paper. Note that you can also use cut-sheet paper and multi-part form paper. For details on using other types of paper, see "Paper Handling" on page 35 of this manual.

❏ Remove the paper guide from the printer.

❏ Position the stack of paper behind the printer.

❏ Make sure printer power is turned off.

❏ Set the release lever to the fanfold position.

Rear cover

Release lever

Cut-sheet

Fanfold
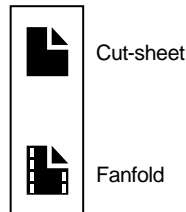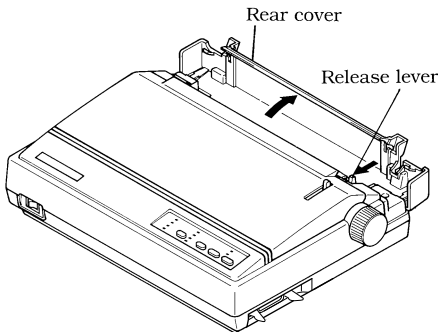
❏ Grasping the two back corners of the printer with the palms of your hands, press back on the two raised areas on the top of the rear cover until it opens.
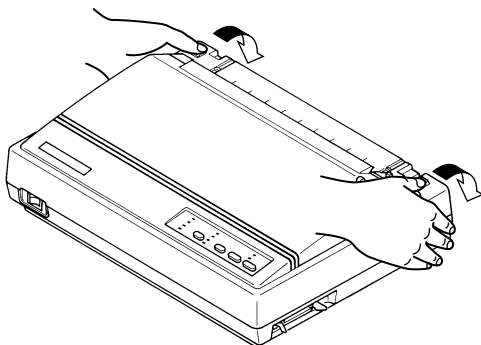
❏ Swing the rear cover back and down until it stops.

Note:

You can also completely remove the rear cover by simply pulling it away from the back of the printer after you open it.

❏ Pass the fanfold paper through the space between the printer case and the rear cover.

❏ Unlock the two tractor covers by pushing their gray levers down, and slide them so they are aligned approximately with the holes on the sides of the paper. Also move the center paper support so that it is approximately halfway between the two tractors.

❏ Open the covers of both tractors and insert the paper so the tractor pins fit into the holes of the paper.

Tractor cover

Clamp lever
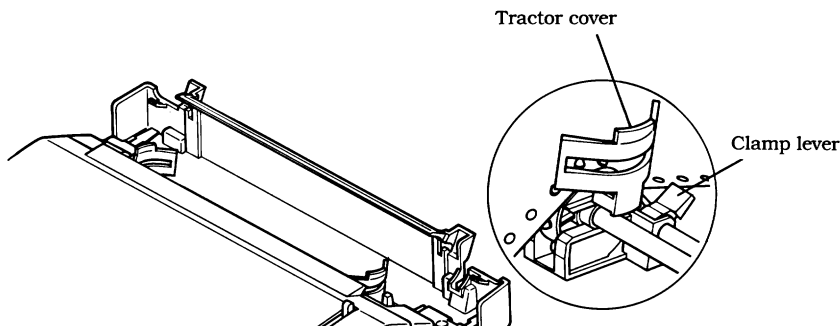
❏ Close the tractor covers and make final adjustments to the paper position by moving the tractors. The paper should lie flat with no buckling or bulging (tractors too close) or no stretching or elongation of the holes (tractors too

far apart). After making these adjustments, be sure that you re-lock the
tractors by pulling the gray levers into the locked position.
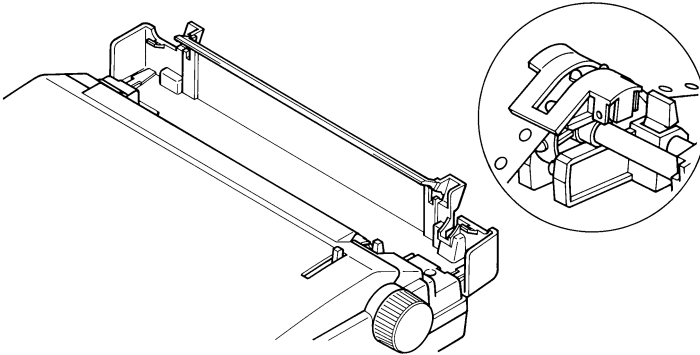
❏ Close the rear cover and press down gently on it until it locks into place
with a click.

Note:

*If you removed the rear cover, first insert its two tabs into the holes provided in
the back of the printer and then swing it closed.*

❏ Install the paper guide so that it lays down flat as shown below. In this
position, the paper guide keeps the printed paper separate from the
unprinted paper.

Paper guide
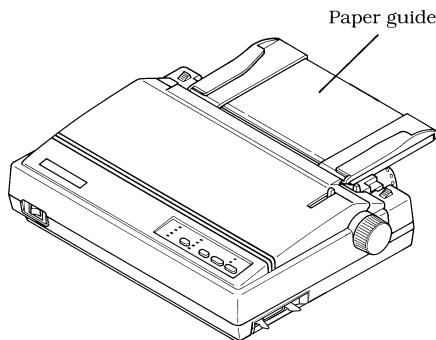
❏ Turn on the printer.

The printer will beep a number of times to indicate that paper is not loaded
properly. Also, the control panel's **POWER** indicator flashes whenever
paper is not loaded.

❏ Pull the bail lever toward the front of the printer. This will feed the paper to the starting position.
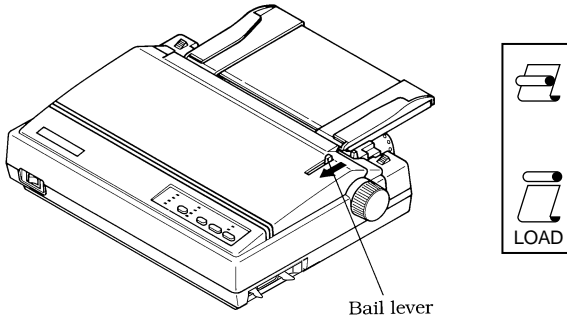
Bail lever

❏ After the paper is fully fed (indicated by the printer's beeping), return the bail lever back to its original position toward the back of the printer.

Important!

Never return the bail lever to its original position until the paper is fully fed. The printer will beep when you can return the bail lever to its original position.

Printing on fanfold paper

When printing on fanfold paper, take care not to print too close to the perforations that separate each sheet. The following shows the recommended print area for fanfold paper and cut-sheet paper.

Fanfold forms

22 mm (0.87")
18 mm (0.71")
18 mm (0.71")
25.4 mm (1.00")
25.4 mm (1.00")
Perforation
70 mm (2.76")

Single sheets

22 mm (0.87")
5 mm (0.20")
5 mm (0.20")
21 mm (0.83")
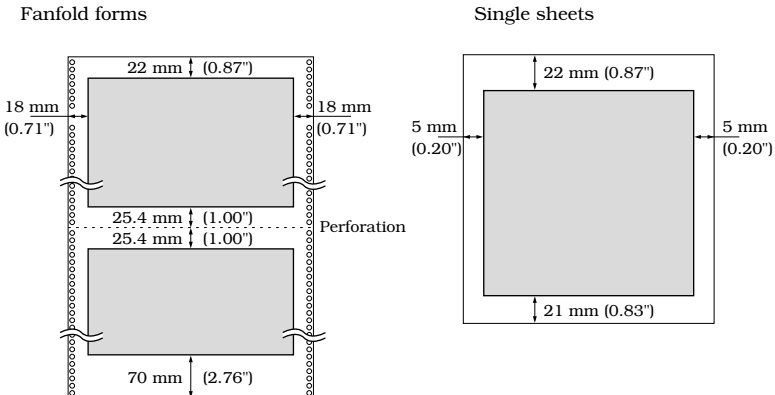
Parking fanfold paper

It is not necessary to remove fanfold paper currently loaded in the printer in order to print on cut-sheet paper. Instead, simply use the following procedure to *park* the fanfold paper.

❏ Tear off the paper at a perforation so there is no more than half a page sticking out of the front cover of the printer.

If necessary, you can press the control panel's **ON LINE** button to put the printer off-line. Then use the **PAPER FEED** button to feed the paper until a perforation is just past the front cover.

❏ Press the control panel's **ON LINE** button to put the printer off-line.

❏ While holding down the control panel's **FONT** button, press the **PAPER FEED** button. The printer automatically reverse feeds the fanfold paper until it is no longer in contact with the platen, which is indicated by the printer beeping a number of times. Also, the control panel's **POWER** indicator starts to flash because paper is not loaded.

❏ Move the release lever to the cut-sheet position.

❏ Change the paper guide to its upright position.

You can now load cut-sheet paper into the printer using the procedures under "Manual sheet feeding" on page 37.

Unparking fanfold paper

After you are finished printing on cut-sheet paper, use the following procedure to unpark fanfold paper and make it available for printing.

❏ Remove all cut-sheet paper from the printer.

❏ Change the paper guide position so that it is laying down flat.

❏ Move the release lever to the fanfold position.

❏ Pull the bail lever toward the front of the printer to feed the paper to the starting position.

❏ After the paper is fully fed (indicated by the printer's beeping), return the bail lever back to its original position toward the back of the printer.

The printer automatically goes back on-line at this time.

Using the tear-off function

The following procedure makes it easy to tear off fanfold paper.

❏ Check to make sure that the printer is on-line.

❏ Press the **FONT** button to perform the long tear-off operation, or press the **PITCH** button to perform the short tear-off operation.

The long tear-off operation causes the paper to be fed automatically so the tear assist edge of the printer cover is aligned with the paper's next perforation.

The short tear-off operation causes the paper to be fed automatically so the tear assist edge of the printer cover is located just below the last line printed on the paper.

❏ Pull the paper against the tear assist edge to tear it off.

Connecting to your computer

The computer sends data to the printer through a cable. This printer does not come with a cable, so you must purchase one separately. You will probably want to use a standard parallel cable for connection, but note that you can also use an optional serial-to-parallel interface converter (SPC-8K).

Interface connector
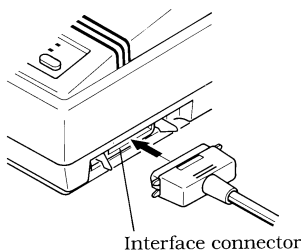
Important!

The following instructions apply to the Centronics parallel cable that is used with an IBM-compatible personal computer. Note that they do not apply to all types of computers and cables. If you are unsure about what type of cable you should use to connect with your computer, consult your dealer.

For an IBM-compatible personal computer:

✓ Use a standard 36-pin Centronics parallel cable.

✓ The parallel cable should be no longer than six feet (two meters). Longer cables can result in poor transfer of information.

Important!

Make sure that the printer and the computer are turned off before connecting them.

❏ Plug one end of the parallel cable into the parallel port of your computer. The parallel port should be labeled "Printer," "Parallel," "PRN," "LPT1," or something similar.

❏ Plug the other end of the parallel cable into the socket on the side of the printer and secure it in place with the clips.
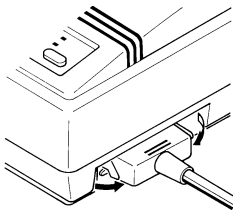
Note:

Consult your dealer for details on how to set up your computer when using the optional SPC-8K serial-to-parallel interface converter.

Chapter 2: Control Panel Operations

The control panel gives you push-button control over the printer's operations. It includes indicator lights, which tell you the current status of the printer at a glance.

```
┌─────────────────────────────────────────────────────────────────────────┐
│  ■  DRAFT          ■  10CPI              MICRO FEED          ■  POWER      │
│                                                                           │
│  ■  COURIER        ■  12CPI          ▼         ▲         ●                │
│                                                  QUIET                     │
│  ■  SANSERIF  FONT ■  PROP    PITCH    PAPER FEED       ■ ── ON LINE       │
│                                                                           │
│  ■  QUIET          ■  COND    ┌────┐  ┌────────┐       ┌────────┐         │
│               ┌────┐                                       FF              │
│                ALT            MACRO      PARK ●        CLEAR ▲             │
└─────────────────────────────────────────────────────────────────────────┘
```
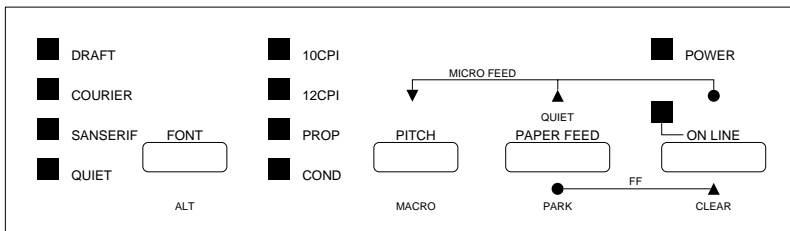
This chapter describes control panel functions that can be performed while the printer is turned on and either on-line or off-line. The buttons perform different functions in the EDS and Dot Adjustment Modes. Functions of control panel buttons in these modes are described in the relevant sections covering them.

Switching between on-line and off-line

❏ Press **ON LINE** to switch the printer between being on-line and off-line.

❏ When the printer is on-line, the **ON LINE** indicator is lit and the printer can receive data from the computer. You should make sure that the printer is on-line whenever you are trying to print.

❏ When the printer is in off-line, the **ON LINE** indicator goes out, which means that the printer cannot receive any data.

❏ Note that you can also press **ON LINE** while a printing operation is in progress to stop the printing.

Important!

Make sure that the on-line/off-line setting of the printer is correct before performing a control panel operation.

Selecting a font

❏ Make sure the printer is off-line (**ON LINE** indicator is not lit).

❏ Press **FONT** to change the font selection. An indicator lights to the left of the name of the font that is currently selected.

The following shows the fonts that are available.

Lit Indicator	Font Name
DRAFT	Draft
COURIER	Courier
SANSERIF	Sanserif

Note:

The font setting you make with the above procedure can be changed if the software you are using overrides the setting from the control panel. You can prevent this by using the following procedure to put the printer into the Font Lock Mode when you turn it on.

Entering the Font Lock Mode

When the printer is in the Font Lock Mode, the font settings you make on the control panel are used even if your software tries to override the font. Use the following procedure to enter the Font Lock Mode.

❏ Turn off the printer.

❏ While holding down **FONT**, turn printer power on.

The printer is now in the Font Lock Mode. You could enter the Font Lock Mode and Pitch Lock Mode (page 18) at the same time by holding down both **FONT** and **PITCH** when you turn on printer power.

To exit the Font Lock Mode, simply turn the printer off.

Important!

Font and pitch lock will not function if you are using Windows Truetype fonts.

Setting the character pitch

The character pitch setting controls how many characters are printed per inch. Use the following procedure to select the pitch you want.

❏ Make sure the printer is off-line (**ON LINE** indicator is not lit).

❏ Press **PITCH** to change the pitch selection.

The following shows the meanings of the indicators that light on the control panel when you press **PITCH**.

Lit Indicators	Meaning
10CPI	10 characters per inch (Pica)
12CPI	12 character per inch (Elite)
10CPI + COND	17 characters per inch (Condensed Pica)
12CPI + COND	20 characters per inch (Condensed Elite)
10CPI + PROP	Pica Proportional
12CPI + PROP	Elite Proportional
10CPI + COND + PROP	Condensed Pica Proportional
12CPI + COND + PROP	Condensed Elite Proportional

Note:

The pitch setting you make with the above procedure can be changed if the software you are using overrides the setting from the control panel. You can prevent this by using the following procedure to put the printer into the Pitch Lock Mode when you turn it on.

Entering the Pitch Lock Mode

When the printer is in the Pitch Lock Mode, the pitch settings you make on the control panel are used even if your software tries to override the pitch. Use the following procedure to enter the Pitch Lock Mode.

❏ Turn off the printer.

❏ While holding down **PITCH**, turn printer power on.

The printer is now in the Pitch Lock Mode. You could enter the Pitch Lock Mode and Font Lock Mode (page 17) at the same time by holding down both **FONT** and **PITCH** when you turn on printer power.

To exit the Pitch Lock Mode, simply turn the printer off.

Important!

Font and pitch lock will not function if you are using Windows Truetype fonts.

Line feed

❏ Make sure the printer is off-line (**ON LINE** indicator is not lit).

❏ Press **PAPER FEED** once to feed paper one line. Holding down **PAPER FEED** continually feeds paper, one line at a time, until you release the button.

Paper eject (cut-sheet paper)

❏ Make sure the printer is off-line (**ON LINE** indicator is not lit).

❏ While holding down **PAPER FEED** (which means the line feed operation is being performed), press **ON LINE** and then release the two buttons.

The printer will automatically eject the sheet of paper that is in the printer.

Form feed (fanfold paper)

❏ Make sure the printer is off-line (**ON LINE** indicator is not lit).

❏ While holding down **PAPER FEED** (which means the line feed operation is being performed), press **ON LINE** and then release the two buttons.

The printer will automatically feed the paper to the top of the next page.

Parking fanfold paper

❏ Make sure the printer is off-line (**ON LINE** indicator is not lit).

❏ While holding down the control panel's **FONT** button, press the **PAPER FEED** button.

❏ The printer automatically reverse feeds the fanfold paper until it is no longer in contact with the platen.

Micro feed

Use the following operation to feed the paper in very small increments. This makes it possible to align the print head exactly where you want it.

❏ Make sure the printer is off-line (**ON LINE** indicator is not lit).

❏ While holding down **ON LINE**, press **PAPER FEED** to feed the paper forward or **PITCH** to feed the paper backward.

Setting the top of form position

The current position of paper loaded in the printer is automatically set as the top of the page whenever you turn power on. You can also use the following procedure at any time to specify a different position as the top of the page.

❏ Make sure the printer is off-line (**ON LINE** indicator is not lit).

❏ Use the micro feed operations (see above) to move the paper so that the print head is located where you want the new top of form position to be.

❏ While holding down **PITCH**, press **PAPER FEED**.

The printer will beep once to indicate that a new top of form position has been set.

Tear-off function (fanfold paper)

This procedure feeds fanfold paper to a position where it can be torn off easily.

❏ Check to make sure that the printer is on-line.

❏ Press the **FONT** button to perform the long tear-off operation, or press the **PITCH** button to perform the short tear-off operation.

The long tear-off operation causes the paper to be fed automatically so the tear assist edge of the printer cover is aligned with the paper's next perforation.

The short tear-off operation causes the paper to be fed automatically so the tear assist edge of the printer cover is located just below the last line printed on the paper.

❏ Pull the paper against the tear assist edge to tear it off.

Selecting the Quiet Print Mode

The Quiet Print Mode lets you print with less noise than that produced with normal printing. Use the following procedure to enter and exit the Quiet Print Mode.

Important!

Though the Quiet Print Mode prints more quietly, it also causes printing to take considerably longer than normal printing.

❏ Make sure the printer is on-line (**ON LINE** indicator is lit).

❏ Press **PAPER FEED**, to toggle between the Quiet Print Mode and normal printing.

The **QUIET** indicator is lit when the Quiet Print Mode is selected, and is not lit when normal printing is selected.

Changing the auto load position

Normally the printer automatically feeds paper to a standard position, based on the printable area specified in the EDS Mode (page 29). This is called the auto load position. You can use the following procedure to specify a different auto load position.

❏ Make sure the printer is off-line (**ON LINE** indicator is not lit).

❏ While holding down **ON LINE**, press **FONT** and then release the two buttons.

The printer will automatically eject the cut-sheet that is in the printer, or reverse feed fanfold paper until it is no longer in contact with the platen. Also, all the font and pitch indicators on the control panel will light.

❏ Pull the bail lever towards the front of the printer to feed the paper to the starting position.

❏ After the paper is fully fed, return the bail lever back to its original position toward the back of the printer.

❏ Feed the paper so the print head is located where you want the new auto load position to be.

Press **PAPER FEED** to feed the paper forward and **PITCH** to feed the paper backward. This is the micro feed operation.

If the end of the paper comes close to coming out of the bail roller while you are feeding the paper backward, the printer will beep. If this happens, pull the bail lever towards the front of the printer.

❑ After you have the paper at the position you want, hold down **ON LINE** and press **PAPER FEED** to make the current print head position the new auto load position. The printer will beep twice to indicate that the new auto load position is set.

❑ To clear the new auto load position and return to the one that you set previously (using the above procedure), press **ON LINE**. To clear the currently set auto load position and return to the position specified by the EDS Mode (page 29), hold down **ON LINE** and press **FONT**.

Note:

The auto load position you set remains in effect until you turn the printer off. If you want to save the auto load position in memory, press PITCH instead of PAPER FEED while holding down ON LINE in the above step.

Saving a macro

Normally, any settings you make on the control panel are cleared when you turn the printer off. Use the following procedure to save the current control panel settings so that they are used whenever you turn the printer on.

❑ Make the control panel settings you want.

❑ Use **ON LINE** to put the printer off-line (**ON LINE** indicator is not lit).

❑ Hold down **FONT** and then **PITCH**. Keep both buttons held down until the printer beeps twice.

The font setting indicator will change to the next font when you press **FONT**, but this procedure saves the font setting that was shown by the indicator before you pressed **FONT**.

This procedure saves the following settings.

• Current font and pitch settings

• Current print color

• Quiet mode status

These items can be set separately for the Standard mode and the IBM mode.

❑ To clear saved control panel settings repeat the above procedure, but keep **FONT** and **PITCH** depressed after the printer beeps twice. Soon the printer will beep again three times to indicate that the saved control panel settings have been cleared.

Clearing the printer's buffer

When the printer receives data from a computer, it temporarily stores it in a memory called a buffer. If you stop a printing job partway through, there is the chance that some data will remain in the buffer. The following procedure clears the printer's buffer by deleting any data that might be there.

❏ Execute the necessary command in the program you are using to stop the print job.

Important!

Be sure to stop the print job before taking the printer off line. Otherwise, the print job will resume from where you interrupted it when you put the printer back on-line.

❏ Use **ON LINE** to take the printer off line (**ON LINE** indicator is not lit).

❏ Hold down **FONT** and then **ON LINE**. Keep both buttons held down until the printer beeps once, which indicates that the buffer is cleared.

Initializing the printer

The following procedure initializes the printer to its power-on settings. If you have control panel settings stored in memory, this procedure sets up the printer using them.

❏ Use **ON LINE** to take the printer off line (**ON LINE** indicator is not lit).

❏ Hold down **FONT** and then **ON LINE**. Keep both buttons held down until the printer beeps once (indicating the printer buffer is cleared) and then beeps again three times, which indicates that the printer is reset.

Chapter 3: Using the EDS Mode

The letters "EDS" stand for "Electronic DIP Switches." Just like the small DIP switches that are used by many computers, printers, and other devices, the EDS lets you configure the printer so that it matches your system and software needs. This chapter describes how to enter the printer's EDS Mode and provides details about available settings and how to change them.

All switch settings, except for D6, are ON when the printer is shipped from the factory.

About EDS Mode settings

EDS Mode settings are grouped among six "banks" (representing banks of switches) that are identified by the letters A through F. Each bank contains a number of "switches" numbered 1 through 6 that you can turn on and off to configure the printer.

Entering the EDS Mode

❏ Make sure that paper is loaded in the printer.

❏ Turn off the printer.

❏ While holding down the control panel's **FONT**, **PITCH**, and **PAPER FEED** buttons, turn the printer back on.

This causes the following message to be printed, which indicates the printer is in the EDS Mode.

```
CURRENT EDS SETTINGS

Bank        A         B         C         D         E         F
Switch    123456    123456    123456    123456    123456    123456
ON        ******    ******    ******    ******    ******    ******
OFF
```

Selecting a bank

❑ While in the EDS Mode, use the control panel's **FONT** button to select a bank. When the **DRAFT** indicator flashes, the font and pitch indicators show which bank is currently selected.

Lit Indicator	Selected Bank
COURIER	A
SANSERIF	B
QUIET	C
12CPI	D
PROP	E
COND	F

Selecting a switch

❑ While in the EDS Mode, use the control panel's **PITCH** button to select a bank switch. When the **10CPI** indicator flashes, the font and pitch indicators show which switch is currently selected.

Lit Indicator	Selected Switch
COURIER	1
SANSERIF	2
QUIET	3
12CPI	4
PROP	5
COND	6

Changing a switch setting

❑ After selecting a bank and switch, press the control panel's **PAPER FEED** button to turn the switch on and off. The current setting of the switch is shown by the **ON LINE** indicator: the indicator is lit when the switch is on, and is not lit when the switch is off.

Printing the current switch settings

❏ To print the current EDS switch settings while in n the EDS Mode, press and hold the control panel's **ON LINE** button and then press the **PAPER FEED** button. Asterisks on the printout show whether a switch is turned on or off.

Exiting the EDS Mode

❏ To save EDS settings you have made and exit the EDS Mode, press the **ON LINE** button.

EDS Mode Settings

The following details all of the settings you can program in the EDS Mode. You can print out a detailed overview of all the settings by performing a short test of the printer (page 48).

BANK A

Switch 1: Emulation
Selects Standard emulation (ON) or IBM emulation (OFF). Standard emulation causes the printer to act like the Epson ESC/P (9-pin), while IBM emulation makes it act like the IBM Proprinter III.

Switch 2: Character Table
The function of this switch depends on whether you are using IBM or Standard emulation.

Emulation	Switch 2 Setting	Description
Standard	ON	Graphics: IBM Character Set #2
Standard	OFF	Italics: Italic character table used
IBM	ON	IBM Character Set #2
IBM	OFF	IBM Character Set #1

Switch 3: RAM Usage
Specifies whether RAM should be used as an input buffer (ON) or as a download buffer (OFF). Selecting input buffer (ON) tells the printer to use available RAM to store data it receives from the computer, which speeds up the printing. Selecting download buffer (OFF) tells the printer to use available RAM to store character patterns.

Switch 4: Automatic Sheet Feeder
Specifies whether the optional SF-10DT Automatic Sheet Feeder is installed (OFF) or not installed (ON).

Switch 5: Paper Out Detector
Specifies whether the printer's paper out detector is enabled (ON) or disabled (OFF). When the paper out detector is enabled (ON), the printer automatically stops printing whenever it senses there is no more paper. When it is disabled (OFF), the printer continues printing as long as there is data. Selecting disabled (OFF) makes it possible to print right up to the bottom of a page, but it also creates the danger of printing when there is no paper loaded in the printer, which can damage the print head and platen.

Switch 6: CR Centering
Specifies whether the printer's CR centering feature is enabled (OFF) or disabled (ON). When CR centering is enabled (OFF), the carriage moves to the center of the platen before fanfold paper is fed or while printing is being performed near a perforation. The printer automatically stops printing whenever it senses there is no more paper. When it is disabled (ON), the carriage does not move before the paper is fed. If CR centering is enabled (OFF), be sure that you set the page length of the fanfold paper you are using to the correct value. Otherwise, CR centering will be performed at the wrong time.

BANK B

Switch 1: NLQ Direction
Selects uni-directional (ON) or bi-directional (OFF) printing for NLQ (Near Letter Quality) printing. Bi-directional printing (OFF) is faster, while uni-directional (ON) printing generally provides better print quality.

Switch 2: Auto Tear-off (Long)
Specifies whether the printer's auto tear-off (long) feature (page 20) is enabled (OFF) or disabled (ON). Note that this setting controls the application software's tear-off function only. It does not affect the manual tear-off function that is performed using the control panel buttons as described on page 14. The manual tear-off function is always enabled.

Switch 3: Line Spacing
Selects 1/6-inch (ON) or 1/8-inch (OFF) spacing between lines.

Switch 4: Auto LF with CR
Specifies whether auto LF with CR is enabled (OFF) or disabled (ON). When auto LF with CR is enabled (OFF), the printer automatically performs a line feed whenever it receives a carriage return from the computer. When it is disabled (ON), the computer must send both a line feed code and a carriage return code at the end of each line. Most applications do this automatically. Note the following checkpoints when trying to figure out which setting to use here:

✓ If you find that your output is double-spaced when it should not be, turn this switch ON (Disabled).

✓ If you find that lines are printing over each other, turn this switch OFF (Enabled).

Switch 5: Zero Style
Specifies whether a normal zero (ON) or a slashed zero (OFF) will be used. Selecting Normal (ON) prints zeros without lines running through them, while Slashed (OFF) prints zeros with a diagonal slash running through them.

Switch 6: Reserved

BANK C

Switch 1: Print Mode

Selects Draft (ON) or NLQ (OFF) as the print mode. NLQ (OFF) provides near letter quality output, while Draft (ON) provides draft quality. Draft quality printing may be less attractive than near letter quality, but the printing operation is faster.

Switch 2: Printable Area

Selects Type-A (OFF) or Type-B (ON) as the printable area. Type-A (OFF) causes the print area to start 1/6-inch from the top of the paper and end 1/4-inch from the bottom of the paper. Type-B (ON) causes the print area to start one inch from the top of the paper and end 1/4-inch from the bottom of the paper.

Switches 3, 4, 5: Print Pitch

Turn these switches on or off to form the pattern that matches the print pitch setting you want to make.

Print Pitch	SW3	SW4	SW5
10cpi	ON	ON	ON
12cpi	OFF	ON	ON
17cpi	ON	OFF	ON
20cpi	OFF	OFF	ON
Proportional 10cpi	ON	ON	OFF
Proportional 12cpi	OFF	ON	OFF
Proportional 17cpi	ON	OFF	OFF
Proportional 20cpi	OFF	OFF	OFF

Switch 6: Quiet

When the Quiet Mode is enabled (OFF), the printer prints with less noise than normal printing. Though the Quiet Mode prints more quietly, it also takes considerably longer than normal printing.

BANK D

Switches 1, 2, 3, 4: Page Length

Turn these switches on or off to form the pattern that matches the Page Length setting you want to use.

Page Length	SW1	SW2	SW3	SW4
11"/Letter	ON	ON	ON	ON
8"	OFF	ON	ON	ON
11.7"/A4	ON	OFF	ON	ON
12"	OFF	OFF	ON	ON
8.5"/Letter	ON	ON	OFF	ON
14"/Legal	OFF	ON	OFF	ON
10.5"/Executive	ON	OFF	OFF	ON
7.25"/Executive	OFF	OFF	OFF	ON
3.5"	ON	ON	ON	OFF
5.5"	OFF	ON	ON	OFF

Switches 5, 6: Ribbon Select

Turn these switches on or off to form the pattern that matches the ribbon you are using.

Ribbon Type	SW5	SW6
Color (LC9CL)	ON	ON
Monochrome (LC9W)	OFF	ON
Monochrome (LC9/LC9HD)	ON	OFF
Monochrome (LC9/LC9HD)	OFF	OFF

BANK E

Switches 1, 2, 3, 4, 5: Code Page/International Character Set

If your EDS settings specify IBM emulation (Bank A, Switch 1 OFF) with either character table (Bank A, Switch 2), or Standard emulation (Bank A, Switch 1 ON) with the graphics character table (Bank A, Switch 2 ON), use the Bank E switches to select the default character code page you want to use.

Code Page	SW1	SW2	SW3	SW4	SW5
#437 IBM-PC	ON	ON	ON	ON	ON
#850 Multi-Lingual	OFF	ON	ON	ON	ON
#852 Latin-2	OFF	OFF	OFF	OFF	ON
#860 Portuguese	ON	OFF	ON	ON	ON
#861 Icelandic	OFF	OFF	ON	ON	ON
#863 Canadian French	ON	ON	OFF	ON	ON
#865 Nordic	OFF	ON	OFF	ON	ON
#866 Russian	ON	OFF	OFF	ON	ON
#3840 IBM-Russian	OFF	OFF	OFF	ON	ON
#3841 Gost-Russian	ON	ON	ON	OFF	ON
#3843 Polish	OFF	ON	ON	OFF	ON
#3844 CS2	ON	OFF	ON	OFF	ON
#3845 Hungarian	OFF	OFF	ON	OFF	ON
#3846 Turkish	ON	ON	OFF	OFF	ON
#3847 Brazil-ABNT	OFF	ON	OFF	OFF	ON
#3848 Brazil-ABICOMP	ON	OFF	OFF	OFF	ON

If your EDS settings specify Standard emulation (Bank A, Switch 1 ON) with the italic character table (Bank A, Switch 2 OFF), use the Bank E switches to select the international character set you want to use. This setting determines the assignment of 14 character codes in the Standard Italic character set.

International Character Set	SW1	SW2	SW3	SW4	SW5
U.S.A.	ON	ON	ON	ON	ON
France	OFF	ON	ON	ON	ON
Germany	ON	OFF	ON	ON	ON
England	OFF	OFF	ON	ON	ON
Denmark-1	ON	ON	OFF	ON	ON
Sweden	OFF	ON	OFF	ON	ON
Italy	ON	OFF	OFF	ON	ON
Spain-1	OFF	OFF	OFF	ON	ON
Japan	ON	ON	ON	OFF	ON
Norway	OFF	ON	ON	OFF	ON
Denmark-2	ON	OFF	ON	OFF	ON
Spain-2	OFF	OFF	ON	OFF	ON
Latin America	ON	ON	OFF	OFF	ON
Korea	OFF	ON	OFF	OFF	ON
Ireland	ON	OFF	OFF	OFF	ON
Legal	OFF	OFF	OFF	OFF	ON

BANK F

Switch 1: NLQ Font Selection
Selects Courier (ON) or Sanserif (OFF) as the default font to use for near letter quality printing.

Note:

Bank C Switch 1 must be in the correct position before this setting has any effect.

Chapter 4: Using the Printer with MS-DOS

This chapter contains information about how to use the printer with applications software running under MS-DOS. In this chapter, you will learn about:

❏ How to set up for printing with MS-DOS

Setting up for printing with MS-DOS

To print from an application running under MS-DOS, you must first select the printer from within the application. Typically, the program will feature an INSTALL or SETUP command for selection of printers. Refer to the manual for the application you are using for details on how to select a printer for it.

Note:

Remember that you must select a printer for each individual application before you can print from it.

❏ Start up the application and use the correct procedure for that application to select a printer. The following is a list of printers that can be used. If your application lists more than one of these, select the printer that is nearest to the top of this list. You should also use the EDS mode or User Setup Utility to select Standard emulation (page 26).

Star LC-1011C / LC-100+ Colour
Star NX-1040 / LC-100 Colour
Star NX-1020 / LC-200 Colour
Epson EX-800
Epson FX-850*
Star NX-1000 / LC-10 Colour

* Does not support color printing.

If none of the printers listed above are available in the application, choose one of the printers listed below. Once again, you should choose the printer that is nearest to the top in the following list. For these printers, you should use the EDS Mode or User Setup Utility to select IBM emulation (page 26).

IBM Proprinter III*
IBM Proprinter II*
IBM Proprinter*

* Does not support color printing.

❏ To print, follow the instructions given in the manual of the application you are using. Typically, you would select the application's PRINT command, make any necessary changes in the window that appears (such as the number of copies to be printed), and then press the **Enter** key to start printing.

Chapter 5: Paper Handling

Your printer is designed to print on a variety of paper types. This chapter tells you everything you need to know about paper, and how to set the printer up for manual paper feed. In this chapter, you will learn about:

❑ Selecting the best type of paper

❑ Adjusting for paper thickness

❑ Manual sheet feeding

❑ Clearing paper jams

Selecting paper types

Use the following information when selecting paper.

Cut-Sheet Paper (Manual Feed)

Width:	5.5″ to 8.5″ / 140 to 216mm
Length:	5.5″ to 14″ / 140 to 356mm
Thickness:	0.00276" to 0.00472" / 0.07 to 0.12mm
Weight:	14 to 24 lbs / 52 to 90g/m^2 / 45 to 77 kg

Cut-Sheet Paper (with Optional Automatic Sheet Feeder)

Width:	7.17″ to 8.5″ / 182 to 216mm
Length:	10.12″ to 14″ / 257 to 356mm
Thickness:	0.00315" to 0.00472" / 0.08 to 0.12mm
Weight:	16 to 24 lbs / 60 to 90g/m^2 / 52 to 77 kg

Fanfold Paper

Width:	4″ to 10″ / 101.6 to 254mm
Thickness:	0.00276" to 0.00433" / 0.07 to 0.11mm (1-ply)
	0.00984" / 0.25mm max. (total thickness of multi-ply)
Weight:	14 to 22 lbs / 52 to 82g/m^2 / 45 to 70 kg (one-ply)
	11 to 14 lbs / 40 to 52g/m^2 / 34 to 45 kg (multi-ply)
Copies:	Original + 2

Adjusting for paper thickness

Paper comes in different weights, normally expressed as gsm (grams per square meter) or lbs (pounds). Some types of forms have multiple pages that make them quite thick. Use the following procedure to change the gap between the print head and the platen and adjust for paper thickness.
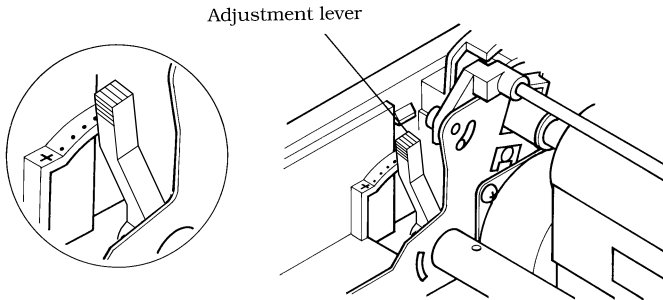
Adjustment lever

❏ Move the adjustment lever to one of its four settings. Position 2 is most suitable for single-sheet paper.

The following table provides a general guide for setting the adjustment lever. Experiment with different settings until you find the one that gives you the print quality you want.

Paper Type		Weight Per Sheet	Thickness	Recommended Position
Single-sheet		52 gsm to 90 gsm	0.07 to 0.12mm	2 or 3
Multi-part	2-ply	40 gsm to 52 gsm	0.12 to 0.14mm	2 or 3
	3-ply	40 gsm to 52 gsm	0.18 to 0.21mm	3 or 4

Continuous use of the wrong adjustment lever setting can drastically reduce print head life!

Automatic fanfold feeding

❏ See "Loading fanfold paper" on page 9 for details on using fanfold paper.

Manual sheet feeding

You can use the following procedure to manually feed single sheets of paper into the printer.

❏ Make sure that there is no fanfold paper in the printer. If there is, use the procedure under "Parking fanfold paper" on page 13 to park the fanfold paper and prepare for manual sheet feeding.

❏ Set the release lever to the cut-sheet position.

Paper guide

Release lever

Cut-sheet

Fanfold
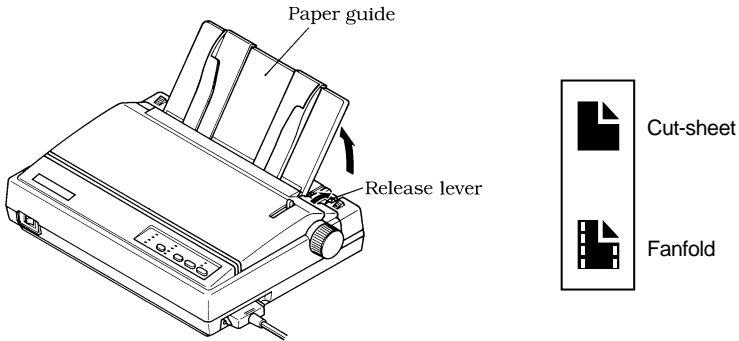
❏ Reposition the paper guide so it is standing up and adjust the guides to match the width of the paper.

LOAD
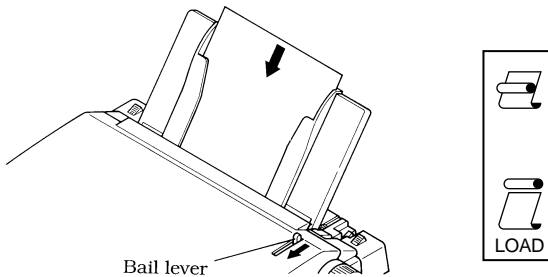
Bail lever

❏ Insert a sheet of paper into the paper guide, with the side you want to print on facing the back of the printer. Gently push the paper down into the printer until you feel it stop.

❏ Pull the bail lever toward the front of the printer. This will feed the paper to the starting position.

❏ After the paper is fully fed (indicated by the printer's beeping), return the bail lever back to its original position toward the back of the printer.

Important!

Never return the bail lever back to its original position until the paper is fully fed. The printer will beep to let you know when you can return the bail lever to its original position.

❏ If you want to move the paper to another position, use the micro feed function described under "Micro feed" on page 20.

❏ Start the printing operation from your software application.

Clearing paper jams

Use the following procedure to clear paper jams from the printer.

❏ Turn the power off.

❏ Unplug the printer from its AC power outlet.

❏ Open the front cover of the printer.

❏ Carefully try to pull the jammed paper from the printer.

If necessary, change the release lever position or rotate the platen knob to remove the paper.

Chapter 6: Optional Accessories

This chapter explains how to install and use the following optional accessories that are available for this printer:

❑ Automatic Sheet Feeder (SF-10DT)

❑ Serial-to-Parallel Converter (SPC-8K)

Important!

Always make sure that printer power is turned off whenever installing or removing optional accessories.

Automatic Sheet Feeder (SF-10DT)

The Automatic Sheet Feeder (ASF) makes it possible for you to print on cut-sheet paper. Before actually starting to install the ASF, be sure to check the contents of its package to make sure you have everything.
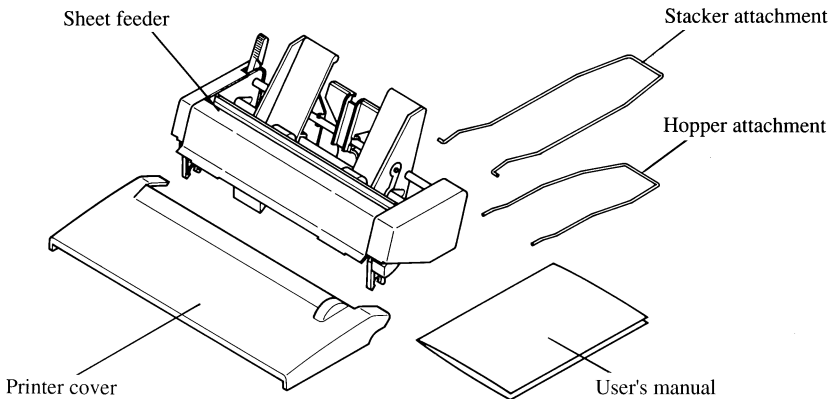
Note:

The Automatic Sheet Feeder is protected by packing and tape during shipment. Be sure to remove all protective material and tape before using the ASF.

Installing the Automatic Sheet Feeder

❏ Use the printer's EDS Mode to change the setting of Bank A Switch 4 to OFF (page 27), which tells the printer that the Automatic Sheet Feeder is installed.

❏ Open the front cover by lifting up on it while pressing in gently on its sides.

❏ Pull the bail lever towards the front of the printer.

Bail lever
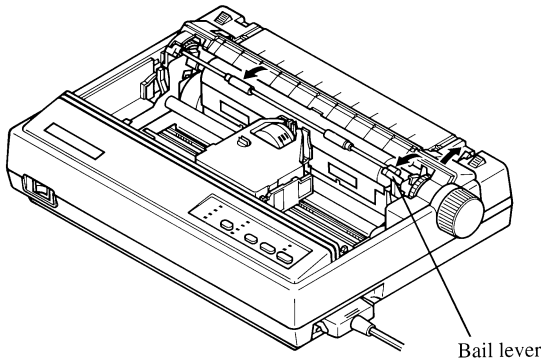
❏ Lower the Automatic Sheet Feeder into position, making sure that its mounting brackets clasp the shaft of the platen.
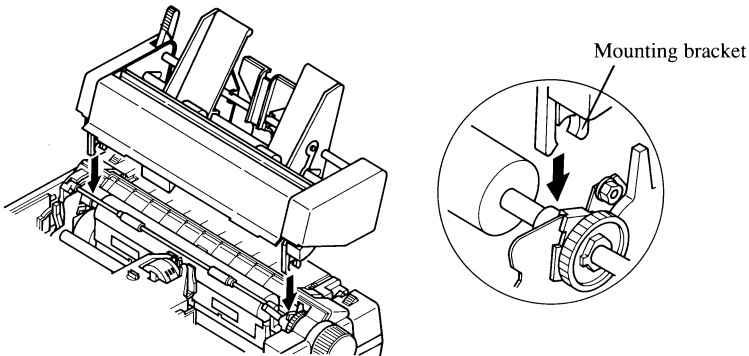
Mounting bracket

❏ Check to make sure that the mounting brackets on either side of the Automatic Sheet Feeder are correctly engaged with the printer's mechanism. If the roller inside the Automatic Sheet Feeder will rotate when you turn the printer's platen knob, it means that the mounting brackets are correctly engaged.

❑ Install the printer cover that comes with the Automatic Sheet Feeder.

Printer cover
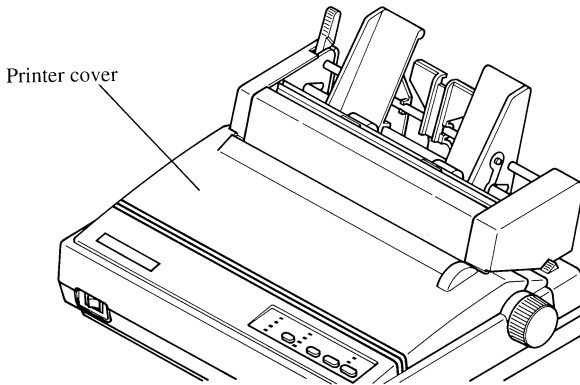
❑ Install the hopper attachment as shown below.
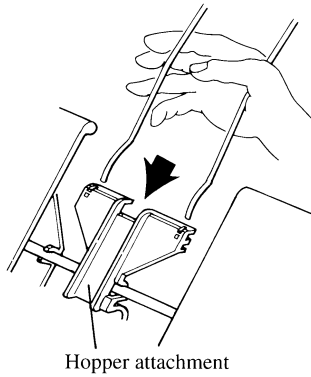
Hopper attachment

❑ Install the stacker attachment by squeezing it so its hooked ends can fit into the grooves of the sheet feeder as illustrated below.

Stacker attachment

Groove
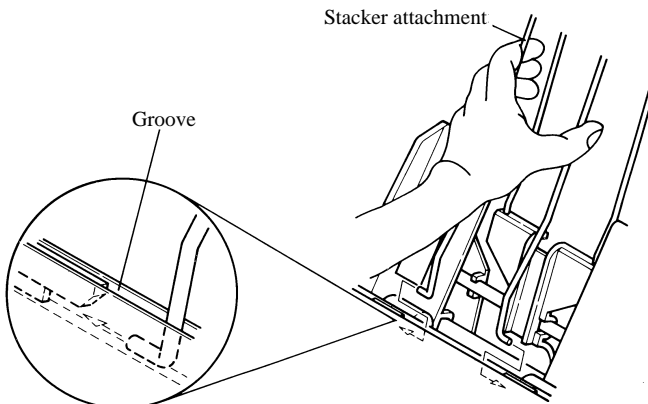
Now you can load paper into the hopper and use the Auto Sheet Feeder for printing.

Important!

Keep the printer's front cover and paper guide in a safe place in case you need to use them again in the future. To remove the Automatic Sheet Feeder from the printer, simply perform the above procedure in reverse.

Loading Paper

❏ If fanfold paper is already loaded in the printer, perform the paper parking operation (page 13).

❏ Set the release lever to the cut-sheet position.

❏ Pull the Automatic Sheet Feeder's paper loading lever towards the front of the printer.

❏ Slide the left paper guide to the position you want.

Paper loading lever
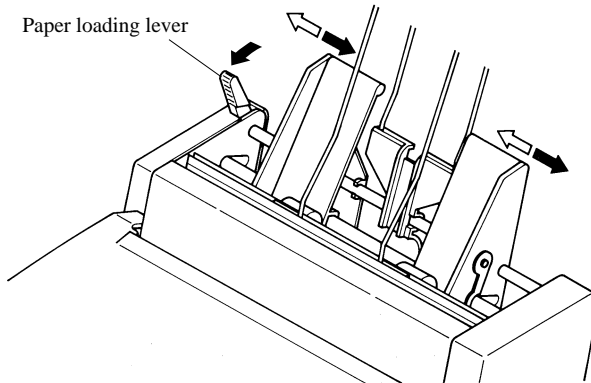
❏ Fan a stack of paper and tap its edges to make sure they are all even.
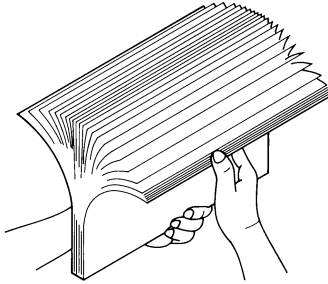
❏ Insert the stack of paper into the Automatic Sheet Feeder.

The Automatic Sheet Feeder can hold up to 50 sheets of 20 lb paper, and will not perform correctly if it is overloaded. Remove some paper if you seem to be having problems.

❏ Adjust the right paper guide to match the width of the paper you are using.

The paper guides should be adjusted to keep the paper from moving horizontally, while allowing it to slide up and down freely.

❏ Push the paper loading lever back to its original position.

Paper loading lever
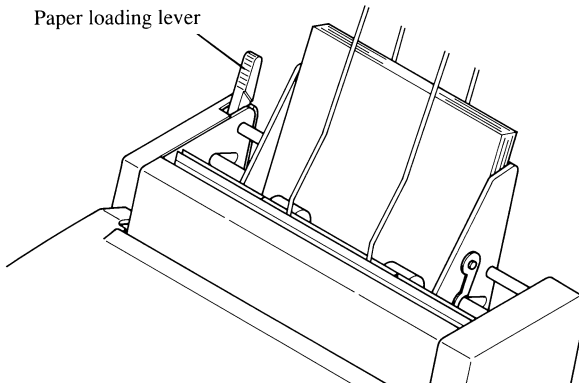
Serial-to-Parallel Interface Converter

This section describes how to connect and set up the SPC-8K Serial-To-Parallel Interface converter.

Connecting the Interface Converter

❏ Unplug the printer from its AC power outlet.

❏ Set the DIP switches on the SPC-8K to the settings you want to use before you connect it to your printer.

See the following section for details on how to set the DIP switches

❏ Plug the interface converter's Centronics connector into the socket on the side of the printer and secure it in place with the clips.

Interface converter
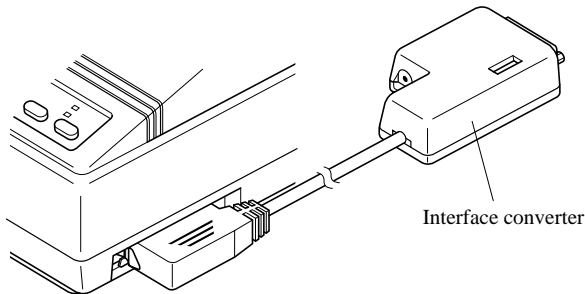
❏ Plug one end of a serial cable into the serial interface connector's 25-pin D-TYPE connector.

Serial Cable

Serial interface Connector
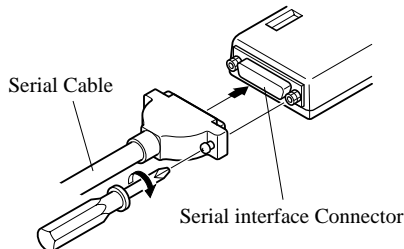
❏ Plug the other end of the serial cable into your computer's serial ports. Serial ports are usually marked COM1, COM 2, etc. If your computer has only one serial port, it will be marked COM1.

Important!

❏ *Make sure that the serial-to-parallel converter is resting on a stable, level surface where it will not be subject to vibration or damage.*
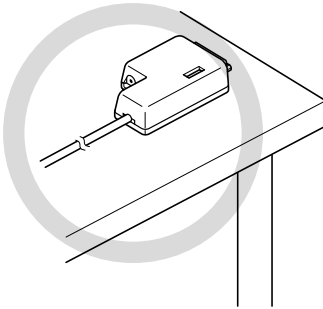
[CORRECT METHOD]   **[INCORRECT METHOD]**
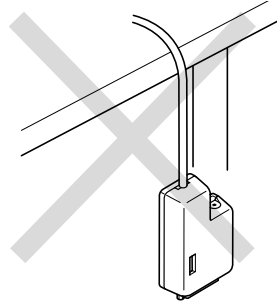
Setting the converter's DIP switches

You should set the converter's DIP switches so they match the settings you make on your computer. The table to the right shows the parameter that each DIP switch on the serial-to-parallel converter controls.

The tables below show all of the settings you can make with the serial-to-parallel's DIP switches to control certain parameters. The tables also include the matching settings you have to make in your MS-DOS AUTOEXEC.BAT file or with the Ports option of the Windows Control Panel. The highlighted cells in the tables indicate default settings for the serial-to-parallel converter.

Switch	Function
1	Data length
2	Parity
3	Protocol
4	Protocol
5	Parity
6	Baud rate
7	Baud rate
8	Baud rate

Data Length

Switch 1	Data Length	DOS/Windows Setting
ON	8 bits	8
OFF	7 bits	7

Parity

Switch 2	Switch 5	Parity	DOS/Windows Setting
ON	ON or OFF	None	N
OFF	ON	Odd	O
OFF	OFF	Even	E

Protocol

Switch 3	Switch 4	Protocol
ON	ON	DTR
ON	OFF	XON/XOFF
OFF	ON	ETX/ACK

Baud Rate

Switch 6	Switch 7	Switch 8	Baud Rate	DOS/Windows Setting
OFF	OFF	OFF	150 bps	150
OFF	OFF	ON	300 bps	300
OFF	ON	OFF	600 bps	600
OFF	ON	ON	1200 bps	1200
ON	OFF	OFF	2400 bps	2400
ON	OFF	ON	4800 bps	4800
ON	ON	OFF	9600 bps	9600
ON	ON	ON	19200 bps	19200

Appendix A: Troubleshooting

The appendix will provide help if you experience problems with your printer. It tells you how to test the printer, how to check system software settings, and how to adjust the vertical alignment. In addition, there is information on actions to take for specific problems, and on the meanings of printer beep tones.

Warning!

The printer uses high voltage. Do not attempt any other repair or maintenance except as expressly recommended in this appendix. Unauthorized repair and maintenance not only exposes you to the danger of electrical shock, it also may damage your printer and void your warranty.

Testing the printer

There are three different tests you can use: a short test, a long test and a hexadecimal dump.

Short test

❏ Make sure that paper is loaded in the printer.

❏ Turn the printer off.

❏ While holding down the control panel's **ON LINE** button, turn the printer on.

The short test prints the version number of the software contained in the printer's ROM, followed by the current EDS settings of the printer.

Note:

The short test prints across the entire width of the carriage. Make sure that the printer is loaded with the widest paper available in order to avoid damage to the print head and platen.

Long test

❏ Make sure that paper is loaded in the printer.

❏ Turn the printer off.

❏ While holding down the control panel's **PAPER FEED** button, turn the printer on.

The long test prints the title followed by seven lines of text. If you are using a color ribbon, each line of text is printed using a different color. This is followed by continuous printing of the entire character set using each font and pitch available. This sequence is repeated until you stop it by turning power off.

Since this test can generate many lines of text and graphics, it is a good idea to perform this test only when using continuous fanfold paper rather than single sheets.

Note:

The long test prints across the entire width of the carriage. Make sure that the printer is loaded with the widest paper available in order to avoid damage to the print head and platen. Also, the long text should be printed only on fanfold paper.

Hexadecimal dump

This procedure prints in hexadecimal format all codes (character codes and control codes) that are sent to the printer by the computer. The printer does not execute any control codes (such as 0A - linefeed), it just prints them out. The hexadecimal dump is useful when you are writing programs for printer control.

❏ Make sure that paper is loaded in the printer.

❏ Turn off the printer.

❏ While holding down the control panel's **PITCH** and **PAPER FEED** buttons, turn the printer back on to enter the Hex Dump Mode.

❏ To exit the Hex Dump Mode, first press **ON LINE** to set the printer off-line, and then turn the printer off.

Adjusting the dot alignment

You may never have to use the procedure described in this section, but after you have been using your printer for some time you may find that the dots of some graphics do not align correctly. For example, what should look like:

```
HHHHH
HHHHH
HHHHH
```

may come out looking like one of the following:

```
HHHHH                            HHHHH
 HHHHH       or like this:       HHHHH
HHHHH                             HHHHH
```

This is caused when mechanical parts of the printer get out of alignment. This happens only rarely and you may never experience it at all throughout the life of the printer. If you do have problems, use the following procedure to correct it.

❏ Make sure that paper is loaded in the printer.

❏ Turn off the printer.

❏ While holding down the control panel's **PITCH** and **ON LINE** buttons, turn the printer back on to enter the Dot Adjustment Mode.

The printer will print something like the following.

Draft-10/12 cpi CURRENT + 4

```
HHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHH
 HHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHH
HHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHH
```

Note that the printer will feed the paper forward and back each time during this operation so you can view the printout.

❏ If the three lines do not align properly, use **FONT** to move the middle line to the left or **PITCH** to move it to the right.

The above step performs alignment for the Draft 10/12 cpi printing mode only. You must make separate adjustments for the Draft 17/20 cpi, NLQ 10/12 cpi, NLQ 17/20 cpi, and Emphasize printing modes as well.

❏ Press **PAPER FEED** to change to another printing mode.

❏ Repeat the above steps for each printing mode, if necessary.

❏ After making changes to adjustments in all the printing modes you want, press **ON LINE** to exit the Dot Adjustment Mode and register your adjustments.

Troubleshooting guide

Use the following table to help track down the causes of problems and to determine the best solution to deal with them.

Problem	Possible Cause	Recommended Action
The ON LINE indicator does not light.	The printer is not receiving power.	Check whether the power cord is correctly plugged into the power outlet.
		Check whether the power outlet is working by unplugging the printer and plugging in another device.
Printer sounds like it is printing, but it is not. Printing is weak.	The ribbon is jammed, twisted, or not set correctly between the print head and the print head shield.	Make sure that the ribbon cassette is installed correctly.
	The printer is not set up correctly for the thickness of paper you are using.	Set up the printer for the paper thickness you are using. See "Adjusting for paper thickness" on page 36.
	The ribbon is worn out or "used up."	Replace the ribbon with a new one.
Printer test works, but printer will not print out data from the attached computer.	Your application program's or system software's printer selection is wrong.	Check the printer selection of your application software.
	The computer's system software is not set up properly for the printer or for the port you are using.	Check the system software settings. Check the settings for LPT1, COM 1, or COM 2 if you are using the SPC-8K Serial Interface.
	The interface cable is connected incorrectly or damaged.	Check to make sure that the printer interface cable is connected correctly. If it is, try a different cable.

Problem	Possible Cause	Recommended Action
Printer does not feed paper properly.	Jamming paper.	Remove all paper from the printer and then reload it.
	The printer is not set up correctly for the thickness of paper being used.	Set up the printer for the paper thickness you are using. See "Adjusting for paper thickness" on page 36.
Line spacing is incorrect.	Jamming paper.	Set up the printer for the paper thickness you are using. See "Adjusting for paper thickness" on page 36.
	The line spacing or leading selected in your application program is wrong.	Choose a different line spacing or leading setting from your application.
	Auto line feed with carriage return is enabled by the EDS setting.	Use the EDS Mode to disable auto line feed with carriage return. See "Switch 4: Auto LF with CR" on page 28.
Lines print over each other.	Auto line feed with carriage return is disabled by the EDS setting.	Use the EDS Mode to enable auto line feed with carriage return. See "Switch 4: Auto LF with CR" on page 28.
	Jamming paper.	Set up the printer for the paper thickness you are using. See "Adjusting for paper thickness" on page 36.

Problem	Possible Cause	Recommended Action
Incorrect number of lines are printed on the page.	Auto line feed with carriage return is enabled by the EDS setting.	Use the EDS Mode to disable auto line feed with carriage return. See "Switch 4: Auto LF with CR" on page 28.
	The line spacing or leading selected by your application program is wrong.	Choose a different line spacing or leading setting from your application.
	Dot adjustment is not correct.	See "Adjusting the dot alignment" on page 49.
Text and graphics are malformed. Print quality is poor.	The ribbon is worn out or "used up."	Replace the ribbon with a new one.
	The printer is not set up correctly for the thickness of paper being used.	Set up the printer for the paper thickness you are using. See "Adjusting for paper thickness" on page 36.
	The print head is damaged.	Return the printer to your dealer for repair.
Forms are smudged. Printing is too dark.	The printer is not set up correctly for the thickness of paper being used.	Set up the printer for the paper thickness you are using. See "Adjusting for paper thickness" on page 36.
	The ribbon is jammed, twisted, or not set correctly between the print head and the print head shield.	Make sure that the ribbon cassette is installed correctly. See "Installing the ribbon cassette" on page 5.
	Print head shield is damaged or missing.	Return it to your dealer for repair.

Problem	Possible Cause	Recommended Action
Printer case is hot.	The printer's air vents are blocked or obstructed.	Switch off the printer and let it cool. Check the air vents on the bottom of the printer to see if they are blocked. Remove the obstruction if possible. If the problem persists, return the printer to your dealer for repair.
Printer makes excessive noise.	The front cover is removed.	Replace the front cover.
	The printer is vibrating.	Move any objects that are touching the printer.
		Make sure that the printer is on a level steady surface.
Printer prints past the edge of the paper.	Incorrect margin settings are selected by your application program.	Choose different margin settings from your application program.
	The paper guide is not positioned correctly.	Remove the paper and adjust the position of the paper guide. Reload the paper and try printing again.
	The ribbon is jammed, causing the print head to jam.	Make sure that the ribbon cassette is installed correctly. See "Installing the ribbon cassette" on page 5.
	Paper is jamming, causing the print head to jam.	Remove all paper from the printer and reload it. Try printing again.
		Set up the printer for the paper thickness you are using. See "Adjusting for paper thickness" on page 36.

Problem	Possible Cause	Recommended Action
Left margin moves to the right during printing.	The paper is not loaded correctly, causing the print head to jam.	Remove all paper from the printer and reload it. Try printing again.
	The ribbon cassette is not installed correctly, causing the print head to jam.	Make sure that the ribbon cassette is installed correctly. See "Installing the ribbon cassette" on page 5.
	The printer is not set up correctly for the thickness of paper being used.	Set up the printer for the paper thickness you are using. See "Adjusting for paper thickness" on page 36.
	Inappropriate settings are selected by your application program.	Choose different settings in your application.
	Static electricity caused by interference from nearby electrical devices or by low-level humidity is affecting printer operation.	Make sure that the printer is not too close to any devices with electric motors or that raise the humidity level.
Some characters are printed incorrectly.	Static electricity caused by interference from nearby electrical devices or by low-level humidity is affecting printer operation.	Make sure that the printer is not too close to any devices with electric motors or that raise the humidity level.
	Inappropriate settings are selected by your application program.	Choose different settings in your application.
	Wires are missing from the print head.	Return the printer to your dealer for repair.

Problem	Possible Cause	Recommended Action
Printer behaves erratically. Printing suddenly stops.	The interface cable is connected incorrectly or damaged.	Check to make sure that the printer interface cable is connected correctly. If it is, try a different cable.
	Static electricity caused by interference from nearby electrical devices or by low-level humidity is affecting printer operation.	Make sure that the printer is not too close to any devices with electric motors or that raise the humidity level.
Automatic Sheet Feeder does not feed paper.	The EDS Mode setting for the Automatic Sheet Feeder is wrong.	Enter the EDS Mode and turn off Switch 4 in Bank A.

Checking system software settings in Windows

Whenever you have problems printing from a Windows application, you should check the following four sthings:

✓ Is the printer you are using set as the default printer?

✓ Is the drive setup correctly?

✓ Is the printer you are using correctly selected in your application?

✓ Is the correct port selected?

You should also refer to your *Microsoft Windows User's Guide* for other information that might be helpful. If you still experience problems, consult your software dealer.

To check the default printer selection

❏ Double-click the **Control Panel** icon in the Main window.

❏ Double-click the **Printers** icon.

❏ Check to see that the name of your Star printer is the default printer. If it is not, double-click on the name of your printer in the list of installed printers.

❏ Click on **Close** to return to the Control Panel window.

To check the application printer selection

❏ Select Print from the application's File menu, and a window appears listing available printers.

❏ Check to see that the name of your Star printer is selected. If it is not, select it and try printing from your application again.

To check the driver Setup

❏ Double-click the **Control Panel** icon in the Main window.

❏ Double-click the **Printers** icon.

❏ Double-click on the name of your Star printer in the list of installed printers.

❏ Click on **Setup**.

❏ Check resolution, paper source, etc.

❏ Click OK.

❏ Click on Close to return to the Control Panel window.

To check the port

❏ Double-click the **Control Panel** icon in the Main window.

❏ Double-click the **Printers** icon.

❏ Double-click on the name of your Star printer in the list of installed printers.

❏ Click on **Connect**.

❏ Make sure that your printer cable is connected to the port highlighted in the list of ports.

If you are using a parallel cable, you will probably be using LPT1. If you are using the optional serial-to-parallel interface converter, you should be using COM1 or COM2. Click on the correct port name.

❏ Click **OK**.

❏ Click on **Close** to return to the Control Panel window.

Checking system software settings in MS-DOS

If you are using a parallel cable and cannot print a text file using the MS-DOS PRINT command, you may have a problem with your AUTOEXEC.BAT file. Open the file and look for the following line:

```
MODE LPT1:=COM1 or MODE LPT1:=COM2
```

These lines indicate you are using a serial cable connection, and so you should delete them, save the AUTOEXEC.BAT file, reboot and try printing again.

Of course, if you are having problems printing with the optional serial-to-parallel converter, you should conversely check to make sure that one of the above lines is included in your AUTOEXEC.BAT file. The file must also contain information on parameter settings. For details, see the user's manual that comes with the optional Serial-to-Parallel Interface Converter.

If the above is not the problem or if you make the above changes and still experience problems printing using the MS-DOS PRINT command, refer to your *MS-DOS Users' Guide* or consult your software dealer.

If you are successful in printing using the MS-DOS PRINT command but cannot print from an application, check to see what printer driver is selected in the application. See "Setting up for printing with MS-DOS" on page 33. If this does not help, consult your software dealer.

Appendix B: Specifications

Printing System	Serial Impact Dot-Matrix		
Printing Speed	**Pitch**	**Draft (cps/dpi)**	**NLQ (cps/dpi)**
	Pica (10 cpi)	160/120H	40/240H
	Elite (12 cpi)	192/120H	48/240H
	Condensed pica (17 cpi)	137/240H	69/240H
	Condensed elite (20 cpi)	160/240H	80/240H
	H: half-dot		
Print Direction	Draft:	Bi-directional logic seeking	
	NLQ:	Uni-directional or bi-directional logic seeking (selectable)	
	Bit-Image:	Uni-directional	
Print Head	Number of pins:	9	
	Life:	200 million dots/pin	
Line Spacing	1/6″, 1/8″		
	7/72″, n/72″, n/216″: software		
Font Styles	Draft, NLQ (Courier, Sanserif)		
Character Matrix	**Pitch**	**Draft**	**NLQ**
	Pica (10 cpi)	$9 \times 11H$	$18 \times 23H$
	Elite (12 cpi)	$9 \times 9H$	$18 \times 19H$
	Condensed pica (17 cpi)	$9 \times 11H$	$18 \times 12H$
	Condensed elite (20 cpi)	$9 \times 9H$	$18 \times 10H$
	H: half-dot		
Environment	Operating temperature:	41°F to 95°F (5°C to 35°C)	
	Storage temperature:	-22°F to 149°F (-30°C to 65°C)	
	Operating humidity:	30% to 80% (non-condensing)	
	Storage humidity:	20% to 90% (non-condensing)	
Paper	**Cut-sheet (manual feeding)**		
	Paper width:	5.5″ to 8.5″ / 140 to 216 mm	
	Paper length:	5.5″ to 14″ / 140 to 356 mm	
	Paper thickness:	0.00276″ to 0.00472″ / 0.07 to 0.12 mm	
	Paper weight:	14 to 24 lbs. / 52 to 90 g/m^2 / 45 to 77 kg	
	Cut-sheet (with optional automatic sheet feeder)		
	Paper width:	7.17″ to 8.5″ / 182 to 216 mm	
	Paper length:	10.12″ to 14″ / 257 to 356 mm	
	Paper thickness:	0.00315″ to 0.00472″ / 0.08 to 0.12 mm	
	Paper weight:	16 to 24 lbs. / 60 to 90 g/m^2 / 52 to 77 kg	

Fanfold (with push tractor feeder)

Paper width:	4″ to 10″ / 101.6 to 254 mm
Paper thickness:	0.00276″ to 0.00433″ / 0.07 to 0.11 mm (one-ply)
	0.00984″ / 0.25 mm max.
	(total thickness of multi-ply paper)
Paper weight:	14 to 22 lbs. / 52 to 82 g/m^2 / 45 to 70 kg (one-ply)
	11 to 14 lbs. / 40 to 52 g/m^2 / 34 to 45 kg (multi-ply)
Copies:	Original + 2

Emulation (AEC)	Standard Mode:	EPSON ESC/P (9-pin)
	IBM Mode:	Proprinter III
Interface	Standard:	Centronics parallel
	Option:	RS-232C serial
Ribbon Type	On-carriage, dedicated	
	Fabric monochrome ribbon LC9HD (standard)	
	Color ribbon LC9CL (option)	
	Long-life fabric monochrome ribbon LC9W (option)	
Ribbon Life	Fabric monochrome ribbon (LC9HD): 1 million characters (draft pica)	
	Color ribbon (LC9CL): 0.5 million characters (draft pica, black)	
	Long-life fabric monochrome ribbon (LC9W): 2.5 million characters (draft pica)	
Dimensions and Weight	Width:	15.59″ / 396 mm
	Depth:	11.85″ / 301 mm
	Height:	4.72″ / 120 mm
	Weight:	11.5 lbs. / 5.2 kg
Power Supply	110V AC ±10%, 120V AC ±10%, 230V AC +6%/-14%, 240V AC ±10%; 50/60Hz	
	(depending on country of purchase)	
Power Consumption	34W during ASCII draft printing	
	8W during stand-by	
Options	SF-10DT Single-bin Automatic Sheet Feeder	
	SPC-8K Serial-To-Parallel Converter	

Appendix C: Interface Pin Outs

Parallel Interface

Pin	Name	Function
1	$\overline{\text{STROBE}}$	Goes low for ≥0.5μs when active.
2	DATA0	These signals represent information for the 1st through 8th bit of parallel data, respectively. Each signal is HIGH when data is logical 1, and LOW when logical 0.
3	DATA1	
4	DATA2	
5	DATA3	
6	DATA4	
7	DATA5	
8	DATA6	
9	DATA7	
10	$\overline{\text{ACK}}$	10μs low to acknowledge receipt of data.
11	BUSY	Printer sets line low when ready to receive data.
12	PAPER	High when paper runs out.
13	SELECT	High when printer is on-line.
14-15		Not used.
16	SIGNAL GND	Signal ground
17	CHASSIS	Chassis ground (isolated from signal ground)
18	+5V	+5V DC output from printer
19 - 30	GND	Twisted pair ground return
31	$\overline{\text{RESET}}$	Printer is reset when this signal goes low.
32	$\overline{\text{ERROR}}$	Low when printing cannot continue due to error.
33	EXT GND	External ground
34 - 36		Not used

Optional Serial Interface

Pin	Name	Function
1	GND	Printer chassis ground
2	TXD	Data from printer
3	RXD	Data to printer
4	RTS	Always space
5	CTS	Space when computer is ready to send data. Printer ignores this signal.
6		Not used.
7	GND	Signal ground
8 - 10		Not used.
11	RCH	Printer sets line to space when ready to receive data. Same signal as Pin 20.
12 - 19		Not used.
20	DTR	Printer sets line to space when ready to receive data.
21 - 25		Not used.

Appendix D: Character Sets

Standard Italic Character Set #2

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	⟨NUL⟩			0	@	P	`	p	à	*S*		*0*	*@*	*P*	`	*p*
1		⟨DC1⟩	!	1	A	Q	a	q	è	*ß*	!	*1*	*A*	*Q*	*a*	*q*
2		⟨DC2⟩	"	2	B	R	b	r	ù	*Æ*	"	*2*	*B*	*R*	*b*	*r*
3		⟨DC3⟩	#	3	C	S	c	s	ò	æ	#	*3*	*C*	*S*	*c*	*s*
4		⟨DC4⟩	$	4	D	T	d	t	ì	Ø	*$*	*4*	*D*	*T*	*d*	*t*
5			%	5	E	U	e	u	°	ø	*%*	*5*	*E*	*U*	*e*	*u*
6			&	6	F	V	f	v	£	¨	*&*	*6*	*F*	*V*	*f*	*v*
7	⟨BEL⟩		'	7	G	W	g	w	í	*Ä*	*'*	*7*	*G*	*W*	*g*	*w*
8	⟨BS⟩ ⟨CAN⟩		(	8	H	X	h	x	¿	*Ö*	*(*	*8*	*H*	*X*	*h*	*x*
9	⟨HT⟩ ⟨EM⟩		)	9	I	Y	i	y	*Ñ*	*Ü*	*)*	*9*	*I*	*Y*	*i*	*y*
A	⟨LF⟩		*	:	J	Z	j	z	ñ	*ä*	***	*:*	*J*	*Z*	*j*	*z*
B	⟨VT⟩ ⟨ESC⟩		+	;	K	[	k	{	*α*	*ö*	*+*	*;*	*K*	*[*	*k*	*{*
C	⟨FF⟩		,	<	L	\	l	¦	*Ŗ*	*ü*	*,*	*<*	*L*	**	*l*	*¦*
D	⟨CR⟩		–	=	M	]	m	}	*Ä*	*É*	*–*	*=*	*M*	*]*	*m*	*}*
E	⟨SO⟩		.	>	N	^	n	~	*å*	*é*	*.*	*>*	*N*	*^*	*n*	*~*
F	⟨SI⟩		/	?	O	_	o	⟨DEL⟩	*ç*	*¥*	*/*	*?*	*O*	*_*	*o*	

International Character Set
The character codes shown in the table are hexadecimal.

Conuntry	23	24	40	58	5A	5B	5C	5D	5E	60	7B	7C	7D	7E
U.S.A.	#	$	@	X	Z	[	\	]	^	`	{	¦	}	~
FRANCE	#	$	à	X	Z	°	ç	§	^	`	é	ù	è	¨
GERMANY	#	$	§	X	Z	Ä	Ö	Ü	^	`	ä	ö	ü	ß
ENGLAND	£	$	@	X	Z	[	\	]	^	`	{	¦	}	~
DENMARK 1	#	$	@	X	Z	Æ	Ø	Å	^	`	æ	ø	å	~
SWEDEN	#	¤	É	X	Z	Ä	Ö	Å	Ü	é	ä	ö	å	ü
ITALY	#	$	@	X	Z	°	\	é	^	ù	à	ò	è	ì
SPAIN 1	₧	$	@	X	Z	¡	Ñ	¿	^	´	¨	ñ	}	~
JAPAN	#	$	@	X	Z	[	¥	]	^	`	{	¦	}	~
NORWAY	#	¤	É	X	Z	Æ	Ø	Å	Ü	é	æ	ø	å	ü
DENMARK 2	#	$	É	X	Z	Æ	Ø	Å	Ü	é	æ	ø	å	ü
SPAIN 2	#	$	á	X	Z	¡	Ñ	¿	é	`	ï	ñ	ó	ú
LATIN AMERICA	#	$	á	X	Z	¡	Ñ	¿	é	ü	í	ñ	ó	ú
KOREA	#	$	@	X	Z	[	₩	]	^	`	{	¦	}	~
IRELAND	#	$	@	Ú	´	[	\	]	˝	`	Á	É	Ó	~
LEGAL	#	$	§	X	Z	°	'	"	¶	`	©	®	†	™

IBM Character Set #2
Code Page #437 (IBM-PC)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	(NUL)			0	@	P	`	p	Ç	É	á	▓	└	╨	α	≡
1		(DC1)	!	1	A	Q	a	q	ü	æ	í	▓	┴	╤	β	±
2		(DC2)	"	2	B	R	b	r	é	Æ	ó	▓	┬	╥	Γ	≥
3	♥	(DC3)	#	3	C	S	c	s	â	ô	ú		├	╙	π	≤
4	♦	(DC4)	$	4	D	T	d	t	ä	ö	ñ	┤	─		Σ	⌠
5	♣	§	%	5	E	U	e	u	à	ò	Ñ		┼	╒	σ	⌡
6	♠		&	6	F	V	f	v	å	û	ª	╢		╓	μ	÷
7	(BEL)		'	7	G	W	g	w	ç	ù	º		║	╫	τ	≈
8	(BS)(CAN)		(	8	H	X	h	x	ê	ÿ	¿	╖	╚	╪	Φ	°
9	(HT)(EM)		)	9	I	Y	i	y	ë	Ö	⌐	╣	╔	┘	Θ	∙
A	(LF)		*	:	J	Z	j	z	è	Ü	¬	║	╩	┌	Ω	·
B	(VT)(ESC)		+	;	K	[	k	{	ï	¢	½	╗	╦	█	δ	√
C	(FF)		,	<	L	\	l			î	£	¼	╝	╠	█	∞	ⁿ
D	(CR)		─	=	M	]	m	}	ì	¥	¡	╜	═	█	ø	²
E	(SO)		.	>	N	^	n	~	Ä	₧	«	┘	╬	█	∈	■
F	(SI)		/	?	O	_	o	(DEL)	Å	ƒ	»	┐	╧		∩	

Code Page #850
Multi-lingual

Other characters are the same as those for Code Page #437

	8	9	A	B	C	D	E	F
0	Ç	É	á	▓	└	ð	ó	─
1	ü	æ	í	▓	┴	Ð	β	±
2	é	Æ	ó	▓	┬	Ê	Ô	=
3	â	ô	ú		├	Ë	Ò	¾
4	ä	ö	ñ	┤	─	È	õ	¶
5	à	ò	Ñ	Á	┼	ı	Õ	§
6	å	û	ª	Â	ã	í	µ	÷
7	ç	ù	º	À	Ã	î	þ	¸
8	ê	ÿ	¿	©	╚	ï	Þ	°
9	ë	Ö	®	╣	╔	┘	Ú	¨
A	è	Ü	¬	║	╩	┌	Û	·
B	ï	ø	½	╗	╦	█	Ù	¹
C	î	£	¼	╝	╠	█	ý	³
D	ì	Ø	¡	¢	═	¦	Ý	²
E	Ä	×	«	¥	╬	█	¯	■
F	Å	ƒ	»	┐	¤	█	´	

Code Page #852
Latin-2

Other characters are the same as those for Code Page #437.

	8	9	A	B	C	D	E	F
0	Ç	É	á	▓	└	đ	Ó	─
1	ü	Ĺ	í	▓	┴	Đ	β	˝
2	é	Í	ó	▓	┬	Ď	Ô	ˇ
3	â	ô	ú		├	Ë	Ń	˘
4	ä	ö	Ą	┤	─	ď	ń	˛
5	ů	Ľ	ą	Á	┼	Ň	ň	§
6	ć	ľ	Ž	Â	Ă	Í	Š	÷
7	ç	Ś	ž	Ě	ă	î	š	¸
8	ł	Ś	Ę	Ş	╚	ě	Ŕ	°
9	ë	Ö	ę	╣	╔	┘	Ú	¨
A	Ő	Ü	¬	║	╩	┌	ŕ	˙
B	ő	Ť	ź	╗	╦	█	Ű	ű
C	î	ť	Č	╝	╠	█	ý	Ř
D	Ź	Ł	ş	Ż	═	Ţ	Ý	ř
E	Ä	×	«	ż	╬	█	ţ	■
F	Ć	č	»	┐	¤	█	´	

Code Page #860
Portuguese

Other characters are the same as those for Code Page #437.

	8	9	A	B	C	D	E	F
0	Ç	É	á	▦	└	╨	α	≡
1	ü	À	í	▨	┴	╤	β	±
2	é	È	ó	▩	┬	╥	Γ	≥
3	â	ô	ú	│	├	╙	π	≤
4	ã	õ	ñ	┤	─	╘	Σ	⌠
5	à	ò	Ñ	╡	┼	╒	σ	⌡
6	Á	Ú	ª	╢	╞	╓	μ	÷
7	ç	ù	º	╖	╟	╫	τ	≈
8	ê	Ì	¿	╕	╚	╪	Φ	°
9	Ê	Õ	Ò	╣	╔	┘	Θ	∙
A	è	Ü	¬	║	╩	┌	Ω	−
B	Í	¢	½	╗	╦	█	δ	√
C	Ô	£	¼	╝	╠	▄	∞	ⁿ
D	ì	Ù	¡	╜	═	▌	ø	²
E	Ã	₧	«	╛	╬	▐	∈	■
F	Â	Ó	»	┐	╧	▀	∩	

Code Page #861
Icelandic

Other characters are the same as those for Code Page #437.

	8	9	A	B	C	D	E	F
0	Ç	É	á	▦	└	╨	α	≡
1	ü	æ	í	▨	┴	╤	β	±
2	é	Æ	ó	▩	┬	╥	Γ	≥
3	â	ô	ú	│	├	╙	π	≤
4	ä	ö	Á	┤	─	╘	Σ	⌠
5	à	þ	Í	╡	┼	╒	σ	⌡
6	å	û	Ó	╢	╞	╓	μ	÷
7	ç	Ý	Ú	╖	╟	╫	τ	≈
8	ê	ý	¿	╕	╚	╪	Φ	°
9	ë	Ö	⌐	╣	╔	┘	Θ	∙
A	è	Ü	¬	║	╩	┌	Ω	−
B	Ð	ø	½	╗	╦	█	δ	√
C	ð	£	¼	╝	╠	▄	∞	ⁿ
D	Þ	Ø	¡	╜	═	▌	ø	²
E	Ä	₧	«	╛	╬	▐	∈	■
F	Å	ƒ	»	┐	╧	▀	∩	

Code Page #863
Canadian French

Other characters are the same as those for Code Page #437.

	8	9	A	B	C	D	E	F
0	Ç	É	¦	▦	└	╨	α	≡
1	ü	È	´	▨	┴	╤	β	±
2	é	Ê	ó	▩	┬	╥	Γ	≥
3	â	ô	ú	│	├	╙	π	≤
4	Â	Ë	¨	┤	─	╘	Σ	⌠
5	à	Ï	¸	╡	┼	╒	σ	⌡
6	¶	û	³	╢	╞	╓	μ	÷
7	ç	ù	¯	╖	╟	╫	τ	≈
8	ê	¤	Î	╕	╚	╪	Φ	°
9	ë	Ô	⌐	╣	╔	┘	Θ	∙
A	è	Ü	¬	║	╩	┌	Ω	−
B	ï	¢	½	╗	╦	█	δ	√
C	î	£	¼	╝	╠	▄	∞	ⁿ
D	₌	Ù	¾	╜	═	▌	ø	²
E	À	Û	«	╛	╬	▐	∈	■
F	§	ƒ	»	┐	╧	▀	∩	

Code Page #865
Nordic

Other characters are the same as those for Code Page #437.

	8	9	A	B	C	D	E	F
0	Ç	É	á	▦	└	╨	α	≡
1	ü	æ	í	▨	┴	╤	β	±
2	é	Æ	ó	▩	┬	╥	Γ	≥
3	â	ô	ú	│	├	╙	π	≤
4	ä	ö	ñ	┤	─	╘	Σ	⌠
5	à	ò	Ñ	╡	┼	╒	σ	⌡
6	å	û	ª	╢	╞	╓	μ	÷
7	ç	ù	º	╖	╟	╫	τ	≈
8	ê	ÿ	¿	╕	╚	╪	Φ	°
9	ë	Ö	⌐	╣	╔	┘	Θ	∙
A	è	Ü	¬	║	╩	┌	Ω	−
B	ï	ø	½	╗	╦	█	δ	√
C	î	£	¼	╝	╠	▄	∞	ⁿ
D	ì	Ø	¡	╜	═	▌	ø	²
E	Ä	₧	¤	╛	╬	▐	∈	■
F	Å	ƒ	¤	┐	╧	▀	∩	

Code Page #866
Russian
Other characters are the same as those for Code Page #437.

	8	9	A	B	C	D	E	F
0	А	Р	а	▓	└	╨	р	Ё
1	Б	С	б	▓	┴	╤	с	ё
2	В	Т	в	▓	┬	╥	т	Є
3	Г	У	г	│	├	╙	у	є
4	Д	Ф	д	┤	─	╘	ф	Ї
5	Е	Х	е	╡	┼	╒	х	ї
6	Ж	Ц	ж	╢	╞	╓	ц	Ў
7	З	Ч	з	╖	╟	╫	ч	ў
8	И	Ш	и	╕	╚	╪	ш	°
9	Й	Щ	й	╣	╔	┘	щ	∙
A	К	Ъ	к	║	╩	┌	ъ	·
B	Л	Ы	л	╗	╦	█	ы	√
C	М	Ь	м	╝	╠	█	ь	№
D	Н	Э	н	╜	═	█	э	¤
E	О	Ю	о	╛	╬	█	ю	■
F	П	Я	п	┐	╧	█	я	

Code Page #3840
IBM-Russian
Other characters are the same as those for Code Page #437.

	8	9	A	B	C	D	E	F
0	А	Р	а	▓	└	╨	р	≡
1	Б	С	б	▓	┴	╤	с	±
2	В	Т	в	▓	┬	╥	т	≥
3	Г	У	г	│	├	╙	у	≤
4	Д	Ф	д	┤	─	╘	ф	⌠
5	Е	Х	е	╡	┼	╒	х	⌡
6	Ж	Ц	ж	╢	╞	╓	ц	÷
7	З	Ч	з	╖	╟	╫	ч	≈
8	И	Ш	и	╕	╚	╪	ш	°
9	Й	Щ	й	╣	╔	┘	щ	∙
A	К	Ъ	к	║	╩	┌	ъ	·
B	Л	Ы	л	╗	╦	█	ы	√
C	М	Ь	м	╝	╠	█	ь	∩
D	Н	Э	н	╜	═	█	э	²
E	О	Ю	о	╛	╬	█	ю	■
F	П	Я	п	┐	╧	█	я	

Code Page #3841
Gost-Russian
Other characters are the same as those for Code Page #437.

	8	9	A	B	C	D	E	F
0	Ғ	ғ	0	ю	п	Ю	П
1	ә	Ә	!	1	а	я	А	Я
2	ӭ	Ӭ	"	2	б	р	Б	Р
3	і	І	#	3	ц	с	Ц	С
4	ї	Ї	¤	4	д	т	Д	Т
5	ј	Ј	%	5	е	у	Е	У
6	җ	Җ	&	6	ф	ж	Ф	Ж
7	ө	Ө	'	7	г	в	Г	В
8	ў	Ў	(	8	х	ъ	Х	Ъ
9	ү	Ү	)	9	и	ы	И	Ы
A	ӿ	Ӿ	*	:	й	з	Й	З
B	ң	Ң	+	;	к	ш	К	Ш
C	ҷ	Ҷ	,	<	л	э	Л	Э
D	ҹ	Ҹ	─	=	м	щ	М	Щ
E	є	Є	.	>	н	ч	Н	Ч
F	£	Ћ	/	?	о	ь	О	Ø

Code Page #3843
Polish
Other characters are the same as those for Code Page #437.

	8	9	A	B	C	D	E	F
0	Ç	Ę	ź	▓	└	╨	α	≡
1	ü	ę	Ź	▓	┴	╤	β	±
2	é	ł	ó	▓	┬	╥	Γ	≥
3	â	ô	Ó	│	├	╙	π	≤
4	ä	ö	ń	┤	─	╘	Σ	⌠
5	à	Ć	Ń	╡	┼	╒	σ	⌡
6	ą	û	ź	╢	╞	╓	μ	÷
7	ç	ù	ż	╖	╟	╫	τ	≈
8	ê	Ś	Ş	╕	╚	╪	Φ	°
9	ë	Ö	┌	╣	╔	┘	Θ	∙
A	è	Ü	┐	║	╩	┌	Ω	·
B	ï	ą	½	╗	╦	█	δ	√
C	î	Ł	¼	╝	╠	█	∞	∩
D	ć	¥	¡	╜	═	█	ø	²
E	Ä	ś	«	╛	╬	█	∈	■
F	Ą	ƒ	»	┐	╧	█	∩	

Code Page #3844
CS2

Other characters are the same as those for Code Page #437.

	8	9	A	B	C	D	E	F
0	Č	É	á	░	└	╨	α	≡
1	ü	ž	í	▒	┴	╤	ß	±
2	é	Ž	ó	▓	┬	╥	Γ	≥
3	ď	ô	ú	│	├	╙	π	≤
4	ä	ö	ň	┤	─	╘	Σ	⌠
5	Ď	Ó	Ň	╡	┼	╒	σ	⌡
6	Ť	ů	Ů	╢	╞	╓	µ	÷
7	č	Ú	Ô	╖	╟	╫	τ	≈
8	ě	ý	š	╕	╚	╪	Φ	°
9	Ě	Ö	ř	╣	╔	┘	Θ	∙
A	Ĺ	Ü	ŕ	║	╩	┌	Ω	·
B	Í	Š	Ŕ	╗	╦	█	δ	√
C	ľ	Ľ	¼	╝	╠	▄	∞	ⁿ
D	ĺ	Ý	§	╜	═	▌	φ	²
E	Ä	Ř	«	╛	╬	▐	ε	■
F	Á	ť	»	┐	╧	▀	∩	

Code Page #3845
Hungarian

Other characters are the same as those for Code Page #437.

	8	9	A	B	C	D	E	F
0	Ç	É	á	░	└	╨	α	≡
1	ü	æ	í	▒	┴	╤	ß	±
2	é	Æ	ó	▓	┬	╥	Γ	≥
3	â	ő	ú	│	├	╙	π	≤
4	ä	ö	ñ	┤	─	╘	Σ	⌠
5	à	Ó	Ñ	╡	┼	╒	σ	⌡
6	å	ű	ª	╢	╞	╓	µ	÷
7	ç	Ú	º	╖	╟	╫	τ	≈
8	ê	Ő	¿	╕	╚	╪	Φ	°
9	ë	Ö	⌐	╣	╔	┘	Θ	∙
A	è	Ü	¬	║	╩	┌	Ω	·
B	ï	¢	½	╗	╦	█	δ	√
C	î	£	¼	╝	╠	▄	∞	ⁿ
D	Í	¥	¡	╜	═	▌	φ	²
E	Ä	₧	«	╛	╬	▐	ε	■
F	Å	ƒ	»	┐	╧	▀	∩	

Code Page #3846
Turkish

Other characters are the same as those for Code Page #437.

	8	9	A	B	C	D	E	F
0	Ç	É	á	░	└	╨	α	≡
1	ü	æ	í	▒	┴	╤	ß	±
2	é	Æ	ó	▓	┬	╥	Γ	≥
3	â	ô	ú	│	├	╙	π	≤
4	ä	ö	ñ	┤	─	╘	Σ	⌠
5	à	ò	Ñ	╡	┼	╒	σ	⌡
6	å	û	Ğ	╢	╞	╓	µ	÷
7	ç	ù	ğ	╖	╟	╫	τ	≈
8	ê	İ	¿	╕	╚	╪	Φ	°
9	ë	Ö	⌐	╣	╔	┘	Θ	∙
A	è	Ü	¬	║	╩	┌	Ω	·
B	ï	¢	½	╗	╦	█	δ	√
C	î	£	¼	╝	╠	▄	∞	ⁿ
D	ı	¥	¡	╜	═	▌	φ	²
E	Ä	Ş	«	╛	╬	▐	ε	■
F	Å	ş	»	┐	╧	▀	∩	

Code Page #3847
Brazil-ABNT

Other characters are the same as those for Code Page #437.

	8	9	A	B	C	D	E	F
0				°	À	Ð	à	ð
1			¡	±	Á	Ñ	á	ñ
2			¢	²	Â	Ò	â	ò
3			£	³	Ã	Ó	ã	ó
4			¤	´	Ä	Ô	ä	ô
5			¥	µ	Å	Õ	å	õ
6			¦	¶	Æ	Ö	æ	ö
7			§	·	Ç	×	ç	÷
8			¨	¸	È	Ø	è	ø
9			©	¹	É	Ù	é	ù
A			ª	º	Ê	Ú	ê	ú
B			«	»	Ë	Û	ë	û
C			¬	¼	Ì	Ü	ì	ü
D				½	Í	Ý	í	ý
E			®	¾	Î	Þ	î	þ
F			¯	¿	Ï	ß	ï	ÿ

Code Page #3848
Brazil-ABICOMP

The other characters are the same as in code page #437.

	8	9	A	B	C	D	E	F
0				Ò	¡	Ò		
1			À	ó	à	ó		
2			Á	Ô	á	ô		
3			Â	Õ	â	õ		
4			Ã	Ö	ä	ö		
5			Ä	Æ	ä	æ		
6			Ç	Ù	ç	ù		
7			È	Ú	è	ú		
8			É	Û	é	û		
9			Ê	Ü	ê	ü		
A			Ë	Ý	ë	ý		
B			ı		ì	ß		
C			í	£	í	ª		
D			î	¦	î	º		
E			ï	§	ï	¿		
F			Ñ	°	ñ	±		

IBM Special Character Set

The following characters can be printed using the <ESC> ^ command.

	0	1
0	Ø	►
1	☺	◄
2	☻	↕
3	♥	‼
4	♦	¶
5	♣	§
6	♠	▬
7	•	↨
8	◘	↑
9	○	↓
A	◙	→
B	♂	←
C	♀	∟
D	♪	↔
E	♫	▲
F	☼	▼

Character Set #1

Other characters are the same as those for Character Set #2.

	0	1
0	<NUL>	
1		
2		<DC1>
3		<DC2>
4		<DC3>
5		<DC4>
6		
7	<BEL>	
8	<BS >	<CAN>
9	<HT>	<EM>
A	<LF>	
B	<VT>	<ESC>
C	<FF>	
D	<CR>	
E	<SO>	
F	<SI>	

	8	9
0	<NUL>	
1		
2		<DC1>
3		<DC2>
4		<DC3>
5		<DC4>
6		
7	<BEL>	
8	<BS >	<CAN>
9	<HT>	<EM>
A	<LF>	
B	<VT>	<ESC>
C	<FF>	
D	<CR>	
E	<SO>	
F	<SI>	

Appendix E: Printer Control Codes

This appendix lists the printer's control commands. It gives the name of each control command, along with the applicable emulation mode (Standard, IBM, or Both), and the applicable ASCII code.

Font and Character Set Control Commands

Description	Mode	ASCII Code
Select italic	STD	`ESC 4`
Cancel italic	STD	`ESC 5`
Select Character Set #2	Both	`ESC 6`
Select Character Set #1	Both	`ESC 7`
Select Draft resident font	IBM	`ESC I00H`
Select 12 CPI Draft resident font	IBM	`ESC I01H`
Select NLQ resident font	IBM	`ESC I02H`
Select Draft resident font	IBM	`ESC I03H`
Select Draft download font	IBM	`ESC I04H`
Select 12 CPI Draft download font	IBM	`ESC I05H`
Select Draft double-strike download font	IBM	`ESC I06H`
Select NLQ download font	IBM	`ESC I07H`
Select NLQ italic resident font	IBM	`ESC I0BH`
Select NLQ italic download font	IBM	`ESC I0FH`
Select international character set	STD	`ESC R`*n*
Set Code Page	Both	`ESC [T`
Print characters from all character chart	IBM	`ESC \`*n1 n2*
Print one character from all character chart	IBM	`ESC ^`*n*
Select NLQ font	STD	`ESC k`*n*
Assign character table	STD	`ESC (t`
Select character table	STD	`ESC t`*n*
Select /cancel NLQ print mode	STD	`ESC x`*n*

Print Pitch Control Commands

Description	Mode	ASCII Code
Select condensed print	Both	SI
Same as SI	STD	ESC SI
Select one line expanded print	Both	SO
Same as SO	STD	ESC SO
Cancel condensed print	STD	DC2
Set print pitch to pica	IBM	DC2
Cancel one-line expanded print	Both	DC4
Set print pitch to elite	IBM	ESC :
Set print pitch to elite	STD	ESC M
Set print pitch to pica	STD	ESC P
Cancel proportional print	IBM	ESC P00H
Select proportional print	IBM	ESC P01H
Cancel expanded print	Both	ESC W0
Select expanded print	Both	ESC W1
Cancel proportional print	STD	ESC p0
Select proportional print	STD	ESC p1

Top/Bottom Margin and Vertical Tab Commands

Description	Mode	ASCII Code
Advance paper to next vertical tab position	Both	VT
Select VFU channels	STD	ESC /n
Set vertical tab positions	Both	ESC Bn...NULL
Set bottom margin	Both	ESC Nn
Cancel bottom margin	Both	ESC O
Set all tabs to power on defaults	IBM	ESC R
Set VFU in a channel	STD	ESC bnm...NULL
Set relative vertical tab positions	STD	ESC e1n
Set vertical print position to n lines	STD	ESC f1n

Special Print Mode Commands

Description	Mode	ASCII Code
Set master print mode	STD	`ESC !`
Cancel underlining	Both	`ESC-0`
Select underlining	Both	`ESC-1`
Select emphasized print	Both	`ESC E`
Cancel emphasized print	Both	`ESC F`
Select double-strike print	Both	`ESC G`
Cancel double-strike print	Both	`ESC H`
Select superscripts	Both	`ESC S0`
Select subscripts	Both	`ESC S1`
Cancel super/subscripts	Both	`ESC T`
Cancel upperlining	IBM	`ESC _0`
Select upperlining	IBM	`ESC _1`

Bit Image Graphic Commands

Description	Mode	ASCII Code
Select bit image mode	STD	`ESC *m` *n1 n2*
Redefine bit image mode	STD	`ESC ?` *n1 n2*
8-pin single-density bit image	Both	`ESC K` *n1 n2*
8-pin double-density bit image	Both	`ESC L` *n1 n2*
8-pin double-density bit image, double-speed	Both	`ESC Y` *n1 n2*
8-pin quadruple density bit image	Both	`ESC Z` *n1 n2*
9-pin bit image mode	STD	`ESC ^` *n0 n1 n2*

Form Feed and Related Commands

Description	Mode	ASCII Code
Advance paper to top of next page (form feed)	Both	`FF`
Return to top line of current page	STD	`ESC FF`
Set top of form to current position	IBM	`ESC 4`
Set page length to *n* inches	Both	`ESC C 00H` *n*
Set page length to *n* lines	Both	`ESC C`*n*

Line Spacing Commands

Description	Mode	ASCII Code
Advance paper one line (line feed)	Both	`LF`
Reverse paper one line	STD	`ESC LF`
Set line spacing to 1/8″	Both	`ESC 0`
Set line spacing to 7/72″	IBM	`ESC 1`
Set line spacing to 1/6″	STD	`ESC 2`
Execute ESC A	IBM	`ESC 2`
Set line spacing to n/216″	Both	`ESC 3n`
Set line spacing to n/72″	STD	`ESC An`
Define line spacing to n/72″	IBM	`ESC An`
One time feed of n/216″	Both	`ESC Jn`
Reverse line feed	IBM	`ESC ]`
Set absolute vertical tab position	STD	`ESC f1n`
One time reverse feed of n/216″	STD	`ESC jn`

Download Character Commands

Description	Mode	ASCII Code
Cancel download character set	STD	`ESC %0`
Select download character set	STD	`ESC %1`
Define download characters in RAM	STD	`ESC &00H`
Copy standard ROM font into RAM	STD	`ESC :00H n 00H`
Define download characters in RAM	IBM	`ESC =`

Horizontal Print Position Control Commands

Description	Mode	ASCII Code
Move print head to next horizontal tab position	Both	`HT`
Return print head to left margin (carriage return)	Both	`CR`
Move print head to absolute horizontal position	STD	`ESC $n1 n2`
Add n dot spaces between characters	STD	`ESC SPn`
Cancel automatic line feed	IBM	`ESC 5 00H`
Select automatic line feed	IBM	`ESC 5 01H`
Set horizontal tab positions	Both	`ESC Dn...NULL`
Set right margin	STD	`ESC Qn`

Horizontal Print Position Control Commands (Continued)

Description	Mode	ASCII Code
Set left and right margins	IBM	`ESC X` *n1 n2*
Move print head to specified horizontal position	STD	`ESC \` *n1 n2*
Justification	STD	`ESC a`*n*
Set absolute horizontal tab position	STD	`ESC f0`*n*
Set relative horizontal tab position	STD	`ESC e0`*n*
Set left margin	STD	`ESC l`*n*

Other Commands

Description	Mode	ASCII Code
Sound printer bell	Both	`BEL`
Move printer head back one space (backspace)	Both	`BS`
Set printer on line	Both	`DC1`
Set printer off line	STD	`DC3`
Cancel line in print buffer	Both	`CAN`
Delete last character sent	STD	`DEL`
ASF control	STD	`ESC EM`*n*
Cancel MSB control	STD	`ESC #`
One-line uni-directional printing	STD	`ESC <`
Set MSB to logical 0	STD	`ESC =`
Set MSB to logical 1	STD	`ESC >`
Disable paper out detect	STD	`ESC 8`
Enable paper out detect	STD	`ESC 9`
Initialize printer	STD	`ESC @`
Deselect printer	IBM	`ESC Q03H`
Cancel uni-directional printing	Both	`ESC U0`
Select uni-directional printing	Both	`ESC U1`
Select double or quadruple size	STD	`ESC h`*n*
Stop printing	IBM	`ESC j`
Select print color	STD	`ESC r`*n*
Control character height, width, line spacing	IBM	`ESC [@`
Set initial condition	IBM	`ESC [K`
Cancel double-high mode	STD	`ESC w0`
Select double-high mode	STD	`ESC w1`

Appendix F: Glossary

adjustment lever
> Controls the darkness of the printing by adjusting for the thickness of the paper you are printing on.

Centronics cable
> Parallel cable normally used to connect the printer to the computer.

control code
> A numeric code that instructs the printer to perform an operation. For example, the computer sends the printer a form feed control code (12) to tell it to eject the current page.

Electronic DIP Switch settings
> Printer settings that take effect when you switch on the printer. You can change these settings using the control panel.

emulation
> Ability of one printer to act like (emulate) another type of printer.

hexadecimal dump
> Printout of all character codes and control codes as they are received by the printer, along with their hexadecimal values.

multi-part forms
> Forms that consist of more than one sheet. This printer can print on forms that have up to three sheets.

NLQ font
> Near letter-quality font.

off-line
> Printer mode in which the printer will not accept data or continue printing.

on-line
> Printer mode in which the printer is ready to print.

paper parking
> Moving fanfold paper into a position that allows printing of cut-sheets without removing the fanfold paper from the printer.

print head
> The component of the printer that transfers the image to the paper.

Quiet mode
> Mode that reduces printing noise. Also reduces printing speed.

release lever
> Releases the paper. This lever must be in the cut-sheet position for cut-sheet paper and in the fanfold position for fanfold paper.

serial-to-parallel interface converter
> Option that makes it possible to connect the printer to a computer via a serial interface instead of the standard Centronics parallel interface.

tear-off function
> Function that moves fanfold paper to a position where it can be torn off.

tractors
> Mechanisms that control the movement of fanfold paper.

Appendix G: Control Panel Operation Guide

DRAFT   10CPI   MICRO FEED   POWER

COURIER   12CPI

SANSERIF   FONT   PROP   PITCH   PAPER FEED   ON LINE
                                QUIET

QUIET   COND

ALT   MACRO   PARK   CLEAR

Font   Pitch   Line Feed   On-Line

Form Feed

Backward   Forward   Micro Feed

Save Macro   Set TOF

Paper Park

Buffer Clear & All Reset

Auto loading position change mode

OFF-LINE

Long Tear-off   Short Tear-off   Quiet   Off-Line

ON-LINE

Font Lock   Pitch Lock   Long Test   Short Test

Font & Pitch Lock

Hex Dump Mode

Dot Adjustment Mode

EDS Mode

POWER-ON

Bank   Switch   On/off   Exit

Print

EDS MODE

Left   Right   Next   Exit

DOT-ADJUSTMENT MODE

Backward   Forward   Cancel

Set

Save

Factory setting

AUTO LOADING POSITION CHANGE MODE

Note:

A dot means press and hold and an arrow means to just press. A dot and arrow tied together means hold one while pressing the other.

A

application printer
   checking selection 56

ASF 40

auto LF with CR 28

auto tear-off 28

AUTOEXEC.BAT 45, 57

Automatic Sheet Feeder 40
   installing 40
   loading paper 42
   paper requirements 43

automatic sheet feeder 27

B

bi-directional printing 28

C

cable
   port connection 57

carton contains 2

Character Set
   IBM #1 66
   IBM #2 62
   IBM Special 66
   international 61
   standard 61

character sets
   tables 61

character tables 26

Code Page
   Brazil-ABICOMP 66
   Brazil-ABNT 65
   Canadian French 63
   CS2 65

Gost-Russian 64
   Hungarian 65
   IBM-Russian 64
   Icelandic 63
   Latin-2 62
   Multi-lingual 62
   Nordic 63
   Polish 64
   Portuguese 63
   Russian 64
   Turkish 65

code page 31

connecting
   to your computer 14

control panel
   printer 16

CR centering 27

cut-sheet paper
   ejecting 19
   manual feeding 35
   specifications 35

D

default printer 41
   checking selection 56

dot alignment 49

download buffer 27

E

EDS Mode
   changing a switch setting
      25
   default settings 24
   definition 24
   entering 24
   exiting 26

troubleshooting 47
    guide 50

U

uni-directional printing 28

unpacking 2

Z

zero style 28

star